157207

Environmental Technology
of North America, Inc.
A HazWaste Company

November 23, 1994

Mr. Jeffrey A. Dodd
U.S. Environmental Protection Agency
Region III
Removal Enforcement Section
303 Methodist Building
11th & Chapline Streets
Wheeling, West Virginia 26003

RE: Submittals Required Pursuant to October 25, 1994, Letter Modifying Potomac Yard Site ECS Work Plan Addendum
ETI Job No. 1116-004-04

Dear Mr. Dodd:

On behalf of Mr. Scott Slagley, Project Coordinator for the Richmond, Fredericksburg, & Potomac Railroad Company (RF&P) on the Potomac Yard Site (Docket No. III-92-61-DC), Environmental Technology of North America, Inc. (ETI) is submitting the enclosed documents required in your October 25, 1994, letter approving the modified *Extent of Contamination Study Work Plan Addendum.* Where noted, the submittals vary from the requirements set forth in the October 25 letter based on your letter to Scott Slagley of RF&P dated November 10, 1994, which clarified and revised certain of the modifications.

The documents attached are:

1) Revised Map Plates 1, 3, 4, 5, 8, and 11, with corrected inconsistencies and errors as specified in the October 25 letter. See Attachment 1.

   In accordance with your November 10, 1994, letter to Scott Slagley, we have made the following two exceptions to the modifications set forth in the October 25 letter:

   - Monitoring wells 72 and 73 have been renumbered as MW-68 and MW-69, respectively, to ensure consistent numbering of wells.

   - Well MW-6 has not been included on Plate 8, *Existing and Proposed Monitoring Well Locations in Area A-1*, because MW-6 is outside Area A-1 (in Potomac Greens).

2229 TOMLYNN STREET • RICHMOND, VIRGINIA 23230
TELEPHONE 804-358-5400 • 804-358-5858 • EMERGENCY 800-228-SPIL
FAX 804-358-6868
ATLANTA • BOWLING GREEN • CHARLESTON • GREENSBORO • ORLANDO • RICHMOND • ROANOKE • WOODBRIDGE

In addition to these modifications discussed in the November 10, 1994, letter, MW-19 is not included on Plate 1 or Plate 8 because a monitoring well with this designation does not exist at the site.

Reference points, and the location of permanent markers, have been included on all plates and figures. Symbols denoting markers have been included in the legend.

2) Revised Appendix O, which includes details concerning the definition of all the grid systems. See Attachment 2.

3) Available information pertaining to future use of the site for purposes of the risk assessment. See Attachment 3.

4) Details concerning the installation of new wells MW-68 and MW-69 (referenced in the October 25 letter as MW-72 and MW-73, but renumbered here to be consistent with existing well numbers). These are the two wells to be located in the vicinity of existing well MW-27, to determine whether periodic free product found in MW-27 is migrating downgradient. Installation details are included in the attached document titled *Technical Services Division Field Sample Worksheet* which includes details of other samples to be collected as well. See Attachment 4.

5) New Appendix P, presenting additional information on how the Ecological Risk Assessment and Characterization will be carried out, as required under modification L in the October 25 letter. See Attachment 5.

Other modifications presented in the October 25 letter have been noted and will be addressed in the final ECS report.

As you are aware, field work to collect the additional samples required under the modifications began Monday, November 14, 1994. Field work will be completed within the required period of 20 business days from receipt of your October 25 letter, with the possible exception of storm event samples. Failure of an adequate storm event to occur will cause a delay in collection of these samples. ETI will notify you directly as far in advance as practical of anticipated collection of storm samples, should an adequate storm event not occur during the current sampling event.

A revised ECS schedule is included as Attachment 6. RF&P expects to submit the ECS report to EPA on or about February 14, 1995, and the Baseline Risk Assessment on or about March 13, 1995.

If you have any questions concerning these documents, please contact Mr. Scott Slagley of RF&P at (804) 225-1608.

Sincerely,

Chuck Flippo
Senior Scientist

mch/CF
ed:VS

cc: D. Kargbo, EPA
G. Wingert, EPA
R. Smith, EPA
T. Modena, DEQ
C. Sales, DEQ
W. Skrabak, Alexandria
J. Harns, Arlington
S. Slagley, RF&P

Attachments

I:\WP\RF&P\POTOMAC\DODD.LET

ATTACHMENT 2

REVISED APPENDIX O

APPENDIX O

Definition of Grid Systems

Permanent Reference Points

Permanent markers will be installed at the yard so that the sampling grid and sampling locations can be reestablished at any time using Global Positioning System (GPS) and/or surveying equipment. Two permanent markers will be installed in each of four areas of Potomac Yard: Central Operations Area, North Tail, South Tail, and Potomac Greens. The locations of the permanent markers are indicated on Plate 1 and all other applicable plates. The Virginia State Plane Coordinates for all of the reference points are listed in Table O-1.

Table O-1 Coordinates of Reference Points at Potomac Yard

Reference Point	Northing	Easting
Main Grid - Central Operations Area		
M0B	427516	413002
N2B	427913	412954
Main Grid - North Tail		
N21A	431662	412302
N23A	432060	412254
South Tail Grid		
S22B'	423252	412719
S24B'	422873	412593
Potomac Greens		
DSAREF1	427535	414039
DSAREF2	427340	414085

Main Grid

The main sampling grid at Potomac Yard was originally established in July 1992. Due to its relative proximity to the center of Potomac Yard and its relative permanence, the consolidated office building was used to establish the primary baselines for the sampling grid. Therefore, the origin of the Main Grid is M0D, located approximately in the center of the consolidated office building. The East-West baseline "MO" bisects and is perpendicular to the west wall of this building, while all the North-South lines were run

parallel to the west wall. The lines were initially laid out to reasonably avoid existing hazards and obstacles wherever possible. Following this reasoning, the north-south lines were laid out to parallel the Amtrak rails (near the western property line) without crossing them, which caused the central "D" North-South line to be offset slightly from the center of the consolidated office building.

Two permanent reference markers will be installed on grid nodes in the Central Operations Area: M0B and N2B (Plate 1). The line between these points establishes the B-line in the Main Yard Grid. The lettered lines in the grid were laid out parallel to the Amtrak rails and approximately North-South. The bearing of the Main Grid is N 6°51'16" W. The numbered lines of the grid are perpendicular to the lettered lines. The spacing of the grid lines in both directions is 200 feet.

The reference point M0B is located 400 feet from the origin of the Main Grid (M0D) at a bearing of N 83°08'44" E. The reference point N2B is located 565.30 feet from the origin at a bearing of S 51°53'38" E.

Two permanent reference markers will be installed on grid nodes of the Main Grid in the North Tail: N21A and N23A. The line between these points establishes the A-line of the Main Grid in the North Tail.

The reference point N21A is located 4242.64 feet from the origin of the Main Grid (M0D) at a bearing of N 14°59'05" W. The reference point N23A is located 4638.97 feet from the origin of the Main Grid at a bearing of N 14°17'09"W.

South Tail Grid

To better conform to the angled topography of the South Tail, the sampling grid was tilted at an angle of 25.2636 degrees relative to the Main Grid in this area. The origin of the South Tail Grid is S22B', the grid node where the Main Grid and the South Tail Grid intersect.

Two permanent reference markers will be installed on grid nodes in the South Tail: S22B' and S24B'. The line between S22B' and S24B' establishes the B'-line in the South Tail Grid. The lettered lines of the grid are parallel to the Amtrak rail, and the bearing of the South Tail Grid is N 18°24'33" E. The numbered lines of the grid are perpendicular to the lettered lines. The spacing of the grid lines in both directions is 200 feet. The reference point S24B' is located 400 feet from the origin of the South Tail Grid (S22B') at a bearing of S 18°24'33" W.

Dredge Spoils Area Grid

The grid in the Dredge Spoils Area is a 1800 x 200 foot rectangle, divided into nine 200 x 200 foot squares. Two permanent reference markers will be installed in Potomac Greens on the Dredge Spoils Grid: DSAREF1 and DSAREF2. The reference point

DSAREF1, the northwest corner of the grid, is the origin of the Dredge Spoils Grid. DSAREF2 is located 200 feet from the origin (DSAREF1) at a bearing of S 13°13'43" E. The line between these points establishes the western border of the grid, which runs approximately North-South. The bearing of the Dredge Spoils Grid is N 13°13'43" W. The spacing of the grid lines in both directions is 200 feet. The center of each grid defines the nine sampling locations.

Fly Ash Area Grid

The grid in the fly ash area is a 440 x 270 foot rectangle, divided into four 220 x 135 foot rectangles. The location of the grid and therefore, the sampling locations can be established relative to the origin of the Dredge Spoils Grid (DSAREF1). The origin of the Fly Ash Area Grid is the center of the grid. The distance from DSAREF1 to the origin is 336.39 feet at an bearing of N 15°16'06" E. The bearing of the Fly Ash Grid is N 18°17'55" W. The center of each grid defines the four sampling locations.

Reestablishment of the Sampling Grid

To satisfy a new round of sampling in March 1994 and November 1994, the sampling grid had to be reestablished, despite the loss of the original grid markings and the destruction of many visible landmarks during demolition activities during the previous two years on Potomac Yard.

As a first step, two arbitrary reference points were established in locations that would readily allow positioning of all the new proposed sampling sites. These points were assigned the following coordinates:

Arbitrary Point 1 - 38 48' 48.45" N. Latitude, 77 3' 15.31" W. Longitude
Arbitrary Point 2 - 38 49' 52.96" N. Latitude, 77 3' 9.68" W. Longitude

These coordinates were then entered into the memory of a Global Positioning System (GPS) instrument. Using the base map (Plate 1), east and north distances from the closest arbitrary point to each of the proposed sampling points were measured and also entered into the GPS.

Using the information above, the GPS in "go to" mode was used to perform the necessary conversions and calculations to successfully guide field personnel to each of the proposed sampling locations. To ensure accuracy after arriving at each point, ETI personnel compared the field location with the actual scaled map position by double-checking distances to at least two known landmarks in addition to at least one other sample point that had been previously pinpointed and verified using these methods.

ATTACHMENT 3

FUTURE USE INFORMATION FOR RISK ASSESSMENT

Anticipated Future Use at Potomac Rail Yard Site

As has been discussed during previous meetings and conversations with Region III EPA representatives, RF&P is working to complete specific, detailed plans for development of the Potomac Rail Yard. The current development plan has not been finalized in detail. However, the general development concept for the Potomac Yard has been established and is unlikely to change substantially. RF&P continues to work with the local governments of Alexandria and Arlington to work out zoning and development details. RF&P intends to develop the human health and ecological risk assessments for the Potomac Yard to reflect its site-specific development plans under the assumption that this approach will provide for the best characterization of potential risks to human health under future site use conditions. This letter outlines the rationale and supporting documentation that will be used in developing the future use exposure scenarios for the Potomac Yard.

Several attachments are included with this letter to more completely describe existing and anticipated conditions at the Potomac Yard and surrounding areas. As noted above, final development plans for the site have not yet been adopted. However, we believe that the attached materials provide a consistent and reasonably detailed description of anticipated future development. Assumptions regarding future use exposure scenarios for the human health risk assessment will be modified to account for changes in development plans or will be developed to consider a reasonably conservative variant of alternative development possibilities. A summary of existing conditions and anticipated development activities follows. This summary is based primarily on the more detailed attachments to this letter.

General Description of Site and Surrounding Areas

The Potomac Yard is a 342-acre site with 296 acres in the City of Alexandria and 46 acres in Arlington County, Virginia. Except for existing through railroad and Metrorail tracks, most of the rail operations at the Potomac Yard have been removed. The site is generally flat, with little vegetation, as a result of being graded in the past for rail operations.

The Potomac Yard, with the removal of most of the past rail operations, is one of the largest undeveloped tracts of land in the urban core of Washington, D.C. Attachment A is an aerial photograph of the Potomac Yard and surrounding areas. The development of Crystal City (primarily large scale office buildings), the emergence of new office and residential buildings along Alexandria's waterfront, the continued expansion of new uses and businesses along King Street and in the rest of Old Town Alexandria, and the construction of the Blue and Yellow lines of the Metrorail system, have formed a development corridor extending from the Pentagon on the north to Interstate 95 on the south. The Potomac Yard is centrally located within this pattern of land uses and, as a result, is a prime location for future development. Other land uses in the vicinity of the Potomac Yard include small, medium and large-scale commercial buildings, and light industrial and retail establishments. A strip of light industrial and commercial uses front on U.S. Route 1 (a 6-lane roadway) along the

western boundary of the site. This strip backs up to and separates residential neighborhoods from the Potomac Yard.

Transportation and Utilities

The existing transportation and transit network surrounding the Potomac Yard has the capacity and potential to accommodate both regional and site specific needs. It has easy access to regional highways, major local thoroughfares, numerous Metrobus routes, National and Dulles Airports, Amtrak, Metrorail, and a regional commuter rail system. RF&P intends to create a regional transit hub at the Potomac Yard by taking advantage of these resources.

Based on preliminary investigations by RF&P, additional utility needs to accommodate development at the site can be met by existing and improved facilities. Development planned for the site would be served by existing utilities, including sanitary and storm sewers, water lines, and electric power lines, augmented with improved facilities to meet increased demand. Drinking water will be provided by municipal water supplies. The City of Alexandria obtains potable water from the Virginia American Water Company (VAWC). VAWC purchases its water from the Fairfax County Water Authority which is obtained from the Occoquan Reservoir. The VAWC also maintains two supply wells for emergency use. Arlington County obtains potable water from the District of Columbia Water and Sewage Commission (DCWSC). Two intakes in the Potomac River provide water for the DSWSC. These intakes are located upstream of the site.

RF&P does not anticipate installation of private drinking water wells on the site (Attachment B). RF&P has initiated discussion with the Alexandria Sanitation Authority, the Virginia American Water Company, VEPCO, and PEPCO regarding utility needs for the Potomac Yard as development proceeds.

Zoning

The City of Alexandria and Arlington County are long-established, densely populated urban areas. Attachment C contains census data characterizing the population in the vicinity of the Potomac Yard.

The Alexandria portion of the site, consistent with the 1992 Master Plan of the City of Alexandria, is zoned Coordinated Development District (CDD). This designation is applied to areas where major mixed use development is anticipated to take place within the City. CDD planning incorporates a review process to ensure that development exhibits a proper integration of uses, the highest quality of urban and architectural design, and harmony with the surrounding areas of the city. The Potomac Yard/Potomac Greens Small Area Plan chapter of the 1992 Master Plan of the City of Alexandria and excerpts from the City of Alexandria Zoning Ordinance are attached (Attachment D). The Potomac Yard/Potomac Greens Small Area Plan serves as the basis for future City Council policy initiatives and

actions affecting land use, zoning, capital improvements, and programs in the area addressed. The Small Area Plan describes in some detail the land use, development opportunities, and historical context of the areas surrounding the Potomac Yard site. The Plan states that the new community developed at the site is unlikely to mirror the lower density development patterns in some of the areas adjacent to the site and notes that these areas were built in earlier times and in response to different historical patterns. Rather, development policies for moderate heights and densities are encouraged (except near transit stations where higher densities are permitted). These goals are reflected in the attached Zoning Ordinance excerpts, which are subject to revision as negotiations between the City and RF&P continue. City of Alexandria zoning for the Potomac Yard/Potomac Greens area describe the amounts and types of development permitted at the site. They provide for a variety of general land uses including: (1) a mix of land uses with office, supporting retail, restaurants, and higher density housing concentrated near a future Metrorail station at the site; (2) a mix of housing types (townhouse and multifamily dwellings); (3) a possible shopping center to serve the district and nearby residential neighborhoods; (4) a variety of retail and service uses scattered throughout the district at appropriate locations; (5) a variety of parks and open spaces; and (6) community facilities as needed. The CDD specifically provides for interim uses on locations at the site planned for later phases of development subject to a special use permit process.

The Arlington portion of the site (designated South Tract) is currently zoned M-1 (Light Industry) and is designated Service Industry on the General Land Use Plan. The Arlington County General Land Use Plan, an excerpt from the "M-1" Light Industrial Zoning regulations, and background information on current Arlington County Land Use Alternatives are provided in Attachment E. Both the zoning and master plan provide for wholesale, storage, and light manufacturing uses on a "by-right" basis. All current Arlington County Land Use Alternatives for the South Tract identify this area as 2/3 Low Density Office-Apartment-Hotel and 1/3 Medium Residential (e.g., townhouse and higher density).

Potomac Yard Development Plans

RF&P's current development plans for the Potomac Yard correspond with current zoning designations or requirements negotiated with the City of Alexandria and Arlington County. Although these plans are not final, they represent, conceptually, the types of development that will occur and, as such, provide a basis for developing appropriate exposure scenarios for the evaluation of potential risks to human health under interim and future use conditions. RF&P intends to maintain ownership of the majority of the site to maximize income from rental units. This will have the added benefit of restricting alternative development.

A variety of urban-density land uses, including office, hotel, retail, and residential, as well as open space will occur at the site. The types of residential dwellings that will be constructed include townhouses, stacked townhouses, mixed-use dwellings, and low-, mid-, and high-rise buildings. No single family detached dwellings with private yards are expected to be developed. Buildings are expected to be constructed at grade or sufficiently below

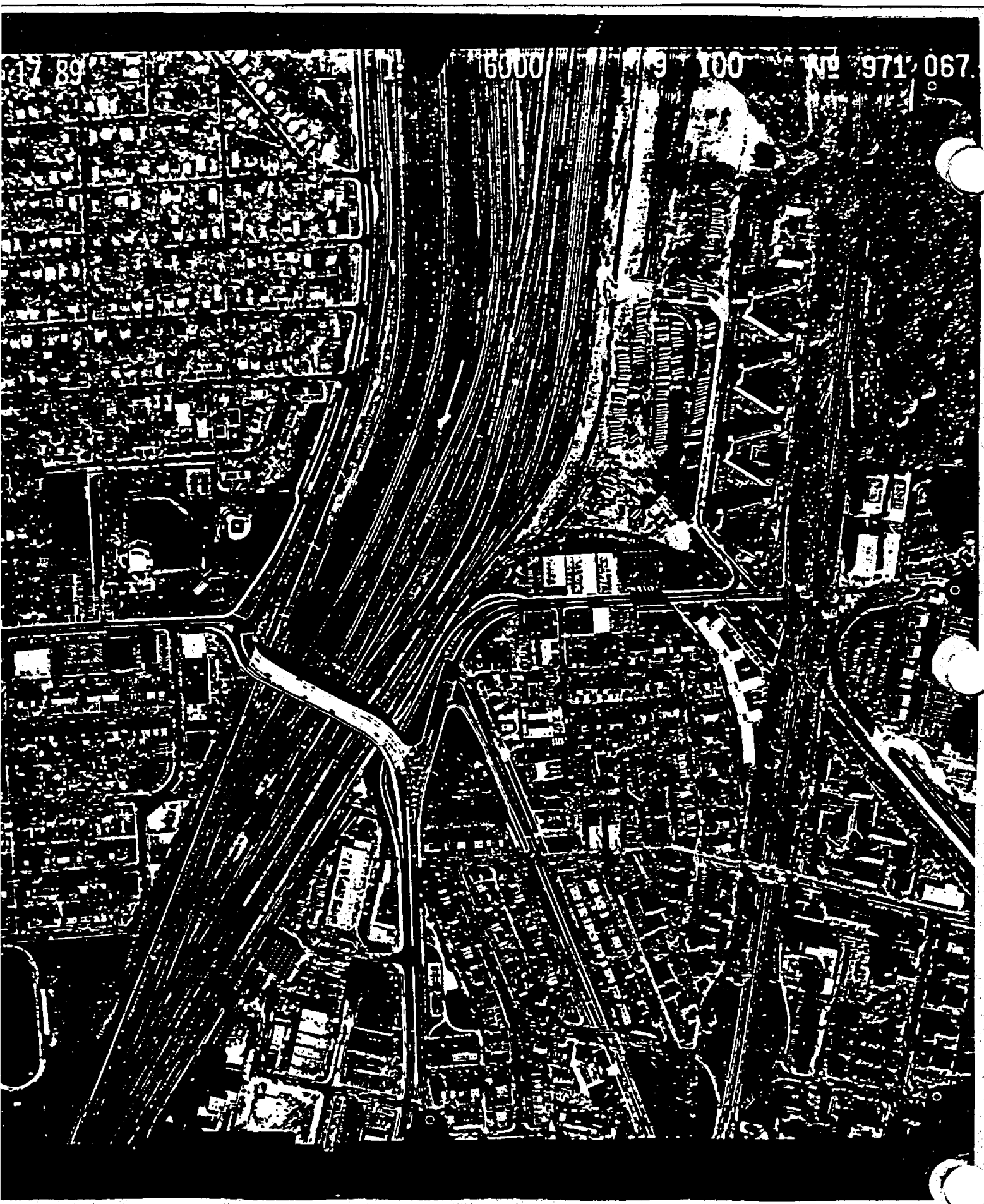
grade to provide for parking. In general, areas surrounding residential, commercial, and retail locations will be common areas and landscaped or paved for roads, walkways, or bike paths. Landscaping will be maintained professionally (e.g., by the municipalities, developers, or residents associations). Open areas also will be graded and covered with fill prior to appropriate landscaping. Interim land uses may occur for periods of 15-20 years prior to completion of development of the Potomac Yard site. These uses may include warehouses, "big-box" retail stores, parking lots, and similar developments. Attachment F provides details of RF&P's development plans. It includes conceptual drawings, site plans, building elevation plans, footprint plans, and details regarding the amounts and types of development currently envisioned.

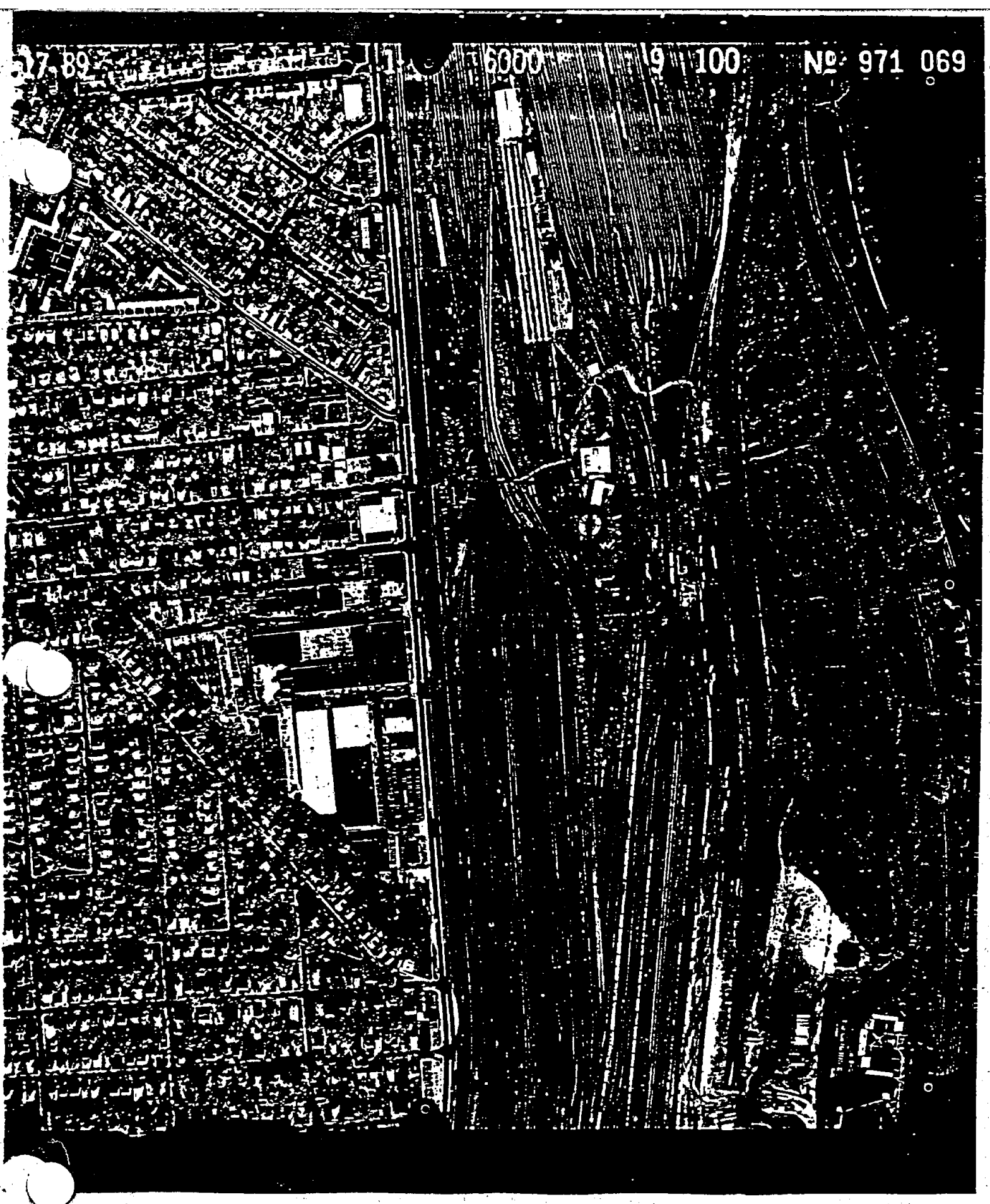
RF&P anticipates using the land use and development plans discussed above as a basis for establishing exposure scenarios for interim and future use risks assessment. Information on which assumptions regarding future exposure pathways and scenarios will be based will be drawn from materials presented in this summary discussion, in the attached supporting documentation, and in additional materials generated as the Potomac Yard development plans become more complete. The risk assessment will be modified, as necessary, as site development plans become more firmly established. Where final development plans are not complete, reasonably conservative exposure scenarios will be developed from the range of possible development scenarios.

We hope that this information provides you with sufficient documentation of the types of supporting information that will be used in developing the exposure and risk assessments for the Potomac Yard. We will keep you apprised of any changes in the Potomac Yard development plans and will modify assumptions in the human health and ecological risk assessments, as appropriate. Please call if you have additional comments or requests.

Attachment A

1989 Aerial photograph of site and surrounding area




27 89
1 6000
9 100
№ 971 069

Attachment B

Documentation on installation of drinking water wells in Arlington and Alexandria

Applicable documentation relative to installation of drinking water wells in Alexandria and Arlington is being reviewed. This information will be provided to EPA by RF&P as it is available.

Attachment C

Census data

1116
3.4.4

DONNELLEY MARKETING INFORMATION SERVICES
1235 N AVENUE
NEVADA, IOWA 50201

SHIPPING OFFICE

S E.T.I.
H 3705 SAUNDERS AVE.
I RICHMOND, VA 23227
P

T ATTN: CANDICE SOMERVILLE
O (804) 358-5400 EXT. 153

JOB NUMBER: 9[illegible]54

SHIP: UNITED STATES MAIL
FIRST CLASS

DATE: AUGUST 12, 1992

SHIPPING: 1990 CENSUS STF3 MARKET STATS AND PROFILE REPORTS FOR THE FOLLOWING AREA:

2900 JEFFERSON-DAVIS HWY, ALEXANDRIA,VA (.5,1,1.5,2 MI)

"POTOMAC RAIL YARD"

CC: SHARON STOREY - NEVADA - W/COSTS (2)
SMC

Candy -
Census info
for Pot Yard.
for ● Candy

AR102357

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
***Profile Report (1**

	AREA 1	AREA 2
Private Sector Employment	2,374	10,535
Socio-Economic Status Indicator	60	70
Population:		
1996 Projection	4,739	17,981
1991 Estimate	4,632	17,725
1980 Census	4,379	17,075
1970 Census	3,622	17,198
Percent Change, 1970-1980	20.9	-0.7
Percent Change, 1980-1991	5.8	3.8
1991 Population by Race:		
% White	36.2	52.5
% Black	56.5	38.4
% Other	7.3	9.1
% Spanish	13.9	12.1
1991 Population by Age:		
% 0 - 5	8.1	7.2
% 6 - 13	10.8	9.8
% 14 - 17	5.0	4.4
% 18 - 24	9.3	8.2
% 25 - 34	16.7	16.2
% 35 - 44	20.1	22.5
% 45 - 54	11.9	12.1
% 55 - 64	8.3	8.2
% 65 +	9.8	11.4
Median Age Total Population	35.1	36.9
Median Age Adult Population	41.0	41.6
1980 % High Sch Grads or Some College	46.7	42.6
1980 % College Graduates	17.7	26.7
1980 Median School Years Completed	12.45	12.73
Households:		
1996 Projection	2,136	8,794
1991 Estimate	2,009	8,337
1980 Census	1,755	7,409
1970 Census	1,278	6,181
Percent Change, 1970-1980	37.3	19.9
Percent Change, 1980-1991	14.5	12.5
1980 Household Population	4,352	17,041
1980 Households w/ Children under 18	577	2,039
1980 Households w/ Persons over 65	233	1,108

1. 1. 0 : Ring: 0.5 mile(s): 38.8316 77.0509
1. 2. 0 : Ring: 1 mile(s): 38.8316 77.0509

(800) 866 - 2255

AR102358

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
Profile Report (2)

	AREA 1	AREA 2
1980 Family Population	3,351	12,473
1980 Non-family Population	1,001	4,568
1980 Group Quarters Population	28	35
1980 Average Household Size	2.48	2.30
1980 Average Family Size	3.47	3.26
1980 Family Households	965	3,822
1980 Non-family Households	790	3,586
1991 Household Income:		
% $ 0 - $ 7,499	6.1	5.6
% $ 7,500 - $ 9,999	5.2	4.9
% $10,000 - $14,999	7.0	6.5
% $15,000 - $24,999	18.3	15.8
% $25,000 - $34,999	15.5	14.5
% $35,000 - $49,999	18.2	18.2
% $50,000 - $74,999	16.6	17.2
% $75,000 +	13.2	17.2
1996 Median Household Income	$ 42,500	$ 46,331
1991 Median Household Income	$ 33,617	$ 37,160
1980 Median Household Income	$ 15,776	$ 17,547
1980 Average Household Income	$ 19,017	$ 21,013
1 Aggregate Household Inc.($000)	88,723	410,256
1980 Per Capita Income	$ 7,660	$ 9,163
1991 Median Family Income	$ 36,994	$ 45,813
1980 Median Family Income	$ 17,361	$ 21,633
1980 Average Family Income	$ 20,932	$ 24,313
1980 Aggregate Family Income($000)	20,200	92,926
1980 Housing Unit Counts:		
Total Units	1,897	7,969
Year Round Units	1,897	7,969
Owner Occupied	656	2,774
Renter Occupied	1,098	4,635
Vacant	142	560
Seasonal Units	0	0
1980 Housing Unit Percents:		
% Year Round of Total Units	100.0	100.0
% Own-Occ of Year Round Units	34.6	34.8
% Rent-Occ of Year Round Units	57.9	58.2
% Vacant of Year Round Units	7.5	7.0
% Seasonal of Total Units	0.0	0.0
% Condominium of Year Round Units	1.7	2.6

1. 1. 0 : Ring: 0.5 mile(s): 38.8316 77.0509
1. 2. 0 : Ring: 1 mile(s): 38.8316 77.0509

(800) 866 - 2255

AR102359

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
Profile Report (3)

	AREA 1	AREA 2
1980 Condominiums:		
Total Units	32	204
% Owner Occupied	65.6	65.2
% Renter Occupied	18.8	20.1
% Vacant	15.6	14.7
1980 Units at Address:		
% 1 Unit	58.3	57.2
% 2-9 Units	25.0	21.0
% 10+ Units	16.7	21.7
% Mobile Homes	0.0	0.1
1980 Median Home Value	$ 58,333	$ 66,924
1980 Median Monthly Rent	$260	$265
1980 Average Condominium Value	$130,149	$124,105
1980 Occupation:		
Total Civil Labor Force	2,370	9,789
% Unemployed	6.8	5.6
Total Employed	2,209	9,244
% Managerial/Professional	21.6	29.2
% Technical/Administrative	25.3	26.5
% Sales	5.5	7.0
% White Collar	52.4	62.7
% Production/Craft/Repair	8.7	7.8
% Machine Operators	6.4	3.9
% Laborers/Transportation Wkrs/etc.	12.6	8.6
% Blue Collar	27.8	20.3
% Farm/Forestry/Fishery Workers	0.3	0.5
% Service Workers	19.6	16.5

1. 1. 0 : Ring: 0.5 mile(s): 38.8316 77.0509
1. 2. 0 : Ring: 1 mile(s): 38.8316 77.0509

(800) 866 - 2255

AR102360

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
Profile Report (1)

	AREA 1	AREA 2
Private Sector Employment	17,812	58,647
Socio-Economic Status Indicator	73	77
Population:		
1996 Projection	37,850	70,421
1991 Estimate	37,157	68,214
1980 Census	35,475	63,531
1970 Census	41,085	71,428
Percent Change, 1970-1980	-13.7	-11.1
Percent Change, 1980-1991	4.7	7.4
1991 Population by Race:		
% White	61.1	64.7
% Black	30.8	26.7
% Other	8.1	8.5
% Spanish	11.5	9.8
1991 Population by Age:		
% 0 - 5	6.8	6.9
% 6 - 13	9.3	9.6
% 14 - 17	4.2	4.3
% 18 - 24	7.9	8.7
% 25 - 34	15.6	18.2
% 35 - 44	21.4	20.2
% 45 - 54	12.3	11.4
% 55 - 64	8.6	8.3
% 65 +	13.9	12.4
Median Age Total Population	37.9	36.2
Median Age Adult Population	42.7	41.3
1980 % High Sch Grads or Some College	40.7	42.7
1980 % College Graduates	34.2	37.0
1980 Median School Years Completed	13.15	13.83
Households:		
1996 Projection	18,271	33,889
1991 Estimate	17,296	31,602
1980 Census	15,335	27,120
1970 Census	14,962	25,335
Percent Change, 1970-1980	2.5	7.0
Percent Change, 1980-1991	12.8	16.5
1980 Household Population	35,252	62,165
1980 Households w/ Children under 18	4,064	7,390
1980 Households w/ Persons over 65	2,774	4,468

2. 1. 0 : Ring: 1.5 mile(s): 38.8316 77.0509
2. 2. 0 : Ring: 2 mile(s): 38.8316 77.0509

(800) 866 - 2255

AR102361

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
Profile Report (2)

	AREA 1	AREA 2
1980 Family Population	26,307	46,729
1980 Non-family Population	8,945	15,436
1980 Group Quarters Population	224	1,366
1980 Average Household Size	2.30	2.29
1980 Average Family Size	3.13	3.13
1980 Family Households	8,392	14,932
1980 Non-family Households	6,942	12,186
1991 Household Income:		
% $ 0 - $ 7,499	5.1	4.3
% $ 7,500 - $ 9,999	4.6	3.9
% $10,000 - $14,999	6.0	5.4
% $15,000 - $24,999	14.0	13.1
% $25,000 - $34,999	12.8	12.9
% $35,000 - $49,999	16.9	17.4
% $50,000 - $74,999	17.1	18.7
% $75,000 +	23.4	24.3
1996 Median Household Income	$ 51,680	$ 55,430
1991 Median Household Income	$ 41,584	$ 43,940
1980 Median Household Income	$ 19,649	$ 20,794
1980 Average Household Income	$ 24,270	$ 25,223
1991 Aggregate Household Inc.($000)	976,134	1,850,684
1980 Per Capita Income	$ 10,625	$ 11,062
1991 Median Family Income	$ 55,567	$ 55,699
1980 Median Family Income	$ 26,256	$ 26,359
1980 Average Family Income	$ 29,454	$ 29,813
1980 Aggregate Family Income($000)	247,178	445,163
1980 Housing Unit Counts:		
Total Units	16,304	28,828
Year Round Units	16,304	28,826
Owner Occupied	6,530	11,019
Renter Occupied	8,803	16,101
Vacant	969	1,706
Seasonal Units	0	2
1980 Housing Unit Percents:		
% Year Round of Total Units	100.0	100.0
% Own-Occ of Year Round Units	40.1	38.2
% Rent-Occ of Year Round Units	54.0	55.9
% Vacant of Year Round Units	5.9	5.9
% Seasonal of Total Units	0.0	0.0
% Condominium of Year Round Units	2.4	8.8

2. 1. 0 : Ring: 1.5 mile(s): 38.8316 77.0509
2. 2. 0 : Ring: 2 mile(s): 38.8316 77.0509

(800) 866 - 2255

AR102362

E.T.I.
AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD

AmericanProfile 08/10/92
Profile Report (3)

	AREA 1	AREA 2
1980 Condominiums:		
Total Units	393	2,533
% Owner Occupied	64.4	65.9*
% Renter Occupied	23.4	28.6*
% Vacant	12.2	5.5*
1980 Units at Address:		
% 1 Unit	62.1	63.5
% 2-9 Units	18.3	16.2
% 10+ Units	19.6	20.2
% Mobile Homes	0.1	0.1
1980 Median Home Value	$ 83,550	$ 90,742*
1980 Median Monthly Rent	$264	$274
1980 Average Condominium Value	$112,655	$ 73,083*
1980 Occupation:		
Total Civil Labor Force	19,599	33,225
% Unemployed	5.0	4.6
Total Employed	18,610	31,697
% Managerial/Professional	35.4	38.5
% Technical/Administrative	25.3	26.4
% Sales	7.2	7.4
% White Collar	67.9	72.3
% Production/Craft/Repair	6.8	6.0
% Machine Operators	3.0	2.4
% Laborers/Transportation Wkrs/etc.	6.8	5.3
% Blue Collar	16.6	13.7
% Farm/Forestry/Fishery Workers	0.9	0.8
% Service Workers	14.6	13.2

2. 1. 0 : Ring: 1.5 mile(s): 38.8316 77.0509
2. 2. 0 : Ring: 2 mile(s): 38.8316 77.0509

* - Indicates suppression has occurred

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 Population	4,432	16,072	0
1990 Pop per Square Mile (Pop Density)	1663.2	7338.8	0.0
Area (Square Miles)	0.3	2.1	0.0
1990 Households	1,725	7,022	0
1990 Average Household Size	2.55	2.27	0.00
1990 % Population by Race:			
White	40.1%	56.7%	0.0%
Black	49.2%	34.6%	0.0%
American Indian, Eskimo & Aleut	0.3%	0.3%	0.0%
Asian or Pacific Islander	1.7%	2.7%	0.0%
Other	8.6%	5.7%	0.0%
Hispanic	12.3%	9.4%	0.0%
1990 % Hispanic Population by Type:			
Not of Hispanic Origin	87.7%	90.6%	0.0
Mexican	0.7%	0.7%	0.0%
Puerto Rican	0.7%	0.6%	0.0%
Cuban	0.2%	0.2%	0.0%
Other Hispanic	10.8%	7.9%	0.0%
1990 % Household Income:			
$ 0 - $ 9,999	11.7%	6.7%	0.0%
$ 10,000 - $ 14,999	6.2%	5.7%	0.0%
$ 15,000 - $ 24,999	15.6%	13.1%	0.0%
$ 25,000 - $ 34,999	16.3%	16.7%	0.0%
$ 35,000 - $ 49,999	18.7%	21.5%	0.0%
$ 50,000 - $ 74,999	23.2%	21.9%	0.0%
$ 75,000 - $ 99,999	5.3%	8.5%	0.0%
$100,000 - $149,999	2.6%	5.0%	0.0%
$150,000 +	0.4%	0.9%	0.0%
1990 Per Capita Income	$ 14,601	$ 19,881	$ 0
1990 Median Family Income	$ 46,100	$ 46,400	$ 0
1990 Median Household Income	$ 35,100	$ 40,000	$ 0
1990 Average Household Income	$ 38,888	$ 45,868	$ 0

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102364

(800) 866-4255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (2)

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Population by Sex:			
Male	50.4%	49.0%	0.0%
Female	49.6%	51.0%	0.0%
1990 % Population by Age:			
0 - 5	8.3%	7.4%	0.0%
6 - 13	9.4%	7.6%	0.0%
14 - 17	4.3%	3.6%	0.0%
18 - 20	4.2%	3.3%	0.0%
21 - 24	7.9%	8.1%	0.0%
25 - 34	24.2%	27.5%	0.0%
35 - 44	16.7%	18.7%	0.0%
45 - 54	11.1%	10.2%	0.0%
55 - 64	7.3%	6.4%	0.0%
65 - 74	4.0%	4.3%	0.0%
75 - 84	2.2%	2.2%	0.0%
85 +	0.5%	0.6%	0.0%
Median Age Total Population	31.5	32.0	0.0
Median Age Adult Population	36.4	35.8	0.0
1990 % Female Population by Age:			
0 - 5	9.3%	7.6%	0.0%
6 - 13	10.2%	7.5%	0.0%
14 - 17	4.7%	3.7%	0.0%
18 - 20	4.0%	3.2%	0.0%
21 - 24	7.0%	8.1%	0.0%
25 - 34	22.4%	26.7%	0.0%
35 - 44	15.5%	18.3%	0.0%
45 - 54	10.9%	9.7%	0.0%
55 - 64	7.6%	6.3%	0.0%
65 - 74	4.7%	5.2%	0.0%
75 - 84	2.9%	3.0%	0.0%
85 +	0.8%	0.8%	0.0%
Female Median Age Total Population	31.6	32.2	0.0
Female Median Age Adult Population	37.4	36.3	0.0
1990 Average Family Size	3.35	3.11	0.00

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102365

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/
1990 Census Market Stats (

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 Households by Type:			
One Person Households	601	2,700	0
Two or More Person Households	1,124	4,322	0
Family Households	951	3,400	0
% Married Couple	64.7%	67.6%	0.0%
% Male Householder	8.5%	7.5%	0.0%
% Female Householder	26.8%	24.9%	0.0%
Nonfamily Households	173	922	0
1990 Family Households With Children Under 18:			
Married Couple Family	284	934	0
Male Householder	34	108	0
Female Householder	168	522	0
1990 Population by Household Type:			
Family Households	3,361	11,052	
Nonfamily Households	1,031	4,895	
Group Quarters	40	125	0
1990 Households With:			
Children Under 18	498	1,590	0
Persons Over 65	240	919	0
Householder Over 65	196	776	0
1990 Housing Unit Counts:			
Total Units	1,929	7,600	0
Occupied Units	1,725	7,022	0
% Owner Occupied	53.9%	48.0%	0.0%
% Renter Occupied	46.1%	52.0%	0.0%
Vacant Units	204	578	0
% Year Round	97.1%	95.8%	0.0%
% Seasonal	2.9%	4.2%	0.0%
1990 Persons in Unit:			
1 Person	601	2,700	0
2 Persons	464	2,177	0
3 Persons	239	902	0
4+ Persons	421	1,243	0
1990 Condominiums:			
Total Units	353	1,090	0
% Owner Occupied	37.7%	58.3%	0.0
% Renter Occupied	55.2%	35.8%	0.0%
% Vacant	7.1%	6.0%	0.0%

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102366

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (4)

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 Median Home Value	$143,700	$162,600	$ 0
1990 Average Home Value	$152,125	$176,567	$ 0
1990 Median Contract Rent	$ 596	$ 643	$ 0
1990 Average Contract Rent	$ 612	$ 671	$ 0
1990 Total Housing Units In Structure	1,929	7,600	0
1, Detached	25.4%	19.2%	0.0%
1, Attached	36.1%	36.3%	0.0%
2	1.7%	1.5%	0.0%
3 - 9	17.3%	17.6%	0.0%
10 - 49	10.0%	9.4%	0.0%
50 +	9.1%	15.6%	0.0%
Mobile Home or Trailer	0.1%	0.0%	0.0%
Other	0.4%	0.3%	0.0%
1990 Total Owner Occupied Housing Units In Structure	929	3,374	0
1, Detached	41.2%	33.8%	0.0%
1, Attached	40.7%	48.7%	0.0%
2	0.9%	0.6%	0.0%
3 - 9	12.3%	7.8%	0.0%
10 - 49	4.7%	3.1%	
50 +	0.0%	5.6%	
Mobile Home or Trailer	0.0%	0.0%	0.0%
Other	0.2%	0.3%	0.0%
1990 Total Renter Occupied Housing Units In Structure	796	3,648	0
1, Detached	10.1%	6.9%	0.0%
1, Attached	34.4%	26.8%	0.0%
2	2.9%	2.5%	0.0%
3 - 9	23.5%	25.0%	0.0%
10 - 49	15.5%	14.9%	0.0%
50 +	12.9%	23.4%	0.0%
Mobile Home or Trailer	0.1%	0.1%	0.0%
Other	0.6%	0.4%	0.0%
1990 Occupied Housing Units by Year Built	1,760	7,113	0
Built 1985 to March, 1990	0.0%	0.4%	0.0%
Built 1980 to 1984	2.3%	4.1%	0.0%
Built 1970 to 1979	4.5%	7.4%	0.0%
Built 1960 to 1969	9.3%	16.5%	0.0%
Built 1950 to 1959	19.9%	24.4%	0.0%
Built 1949 and Earlier	64.0%	47.2%	0.0%

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102367

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/
1990 Census Market Stats

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Marital Status:			
Total Male:	1,862	6,646	0
Never Married	46.6%	46.5%	0.0%
Married	38.4%	38.8%	0.0%
Separated	5.4%	3.9%	0.0%
Widowed	1.7%	1.8%	0.0%
Divorced	7.9%	9.0%	0.0%
Total Female:	1,735	6,891	0
Never Married	35.4%	39.0%	0.0%
Married	38.7%	36.0%	0.0%
Separated	5.5%	4.1%	0.0%
Widowed	9.9%	8.3%	0.0%
Divorced	10.5%	12.7%	0.0%
1990 % Employment Status:			
Total Labor Force:			
Armed Forces	0.5%	1.3%	0.0%
Civilian:			
Employed	70.9%	76.8%	0.0%
Unemployed	4.9%	3.3%	0.0%
Not in Labor Force	23.6%	18.6%	0.0%
Female Labor Force:			
Armed Forces	0.0%	0.5%	0.0%
Civilian:			
Employed	67.0%	73.1%	0.0%
Unemployed	4.4%	2.9%	0.0%
Not in Labor Force	28.7%	23.5%	0.0%
Total Mothers	506	1,555	0
Working Mothers:			
Child < 6 Only	15.8%	22.4%	0.0%
Child 6-17 Only	33.6%	33.4%	0.0%
Child < 6 & 6-17	12.5%	12.1%	0.0%
Nonworking Mothers	38.1%	32.2%	0.0%
1990 Households by Number of Vehicles:			
1 Vehicle	759	3,523	0
2 Vehicles	497	1,964	0
3 Vehicles	221	489	0
4 Vehicles	26	165	
5 or More Vehicles	8	18	

AR102368

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (6)

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Industry Employment:			
Agriculture/Fish/Forestry	0.8%	1.4%	0.0%
Mining	0.0%	0.0%	0.0%
Construction	7.2%	5.9%	0.0%
Manufacturing:			
Nondurable Goods	0.7%	2.0%	0.0%
Durable Goods	1.4%	2.5%	0.0%
Transportation	6.7%	5.2%	0.0%
Communications	3.2%	3.2%	0.0%
Wholesale Trade	3.6%	2.0%	0.0%
Retail Trade	10.2%	12.9%	0.0%
Finance/Insurance/Real Estate	4.4%	5.4%	0.0%
Services:			
Business Repair	8.9%	7.3%	0.0%
Personal	4.8%	5.5%	0.0%
Entertainment/Recreation	4.1%	1.9%	0.0%
Health	7.7%	5.4%	0.0%
Educational	7.1%	6.0%	0.0%
Other Professional and Related	12.7%	14.5%	0.0%
Public Administration	16.6%	19.0%	0.0%
Total	2,400	10,142	
1990 % Occupation:			
Executive and Managerial	17.6%	21.9%	0.0%
Professional Specialty	18.0%	20.0%	0.0%
Technical Support	7.7%	6.6%	0.0%
Sales	6.3%	7.7%	0.0%
Administrative Support	18.5%	15.0%	0.0%
Service: Private Household	1.0%	0.5%	0.0%
Service: Protective	1.7%	1.4%	0.0%
Service: Other	11.5%	11.4%	0.0%
Farming/Forestry/Fishing	0.5%	0.8%	0.0%
Precision Production/Craft	6.5%	6.5%	0.0%
Machine Operator	3.2%	2.1%	0.0%
Transportation/Material Moving	4.5%	3.2%	0.0%
Laborers	3.0%	2.9%	0.0%
White Collar Total	68.2%	71.2%	0.0%
Blue Collar Total	17.1%	14.7%	0.0%
Total Employed	2,400	10,142	0

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102369

(800) 866 - 2255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/
1990 Census Market Stats

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Means of Transportation to Work:			
Car, Truck, or Van:			
Drove Alone	53.7%	54.2%	0.0%
Carpooled	20.1%	16.9%	0.0%
Public Transportation	18.0%	21.1%	0.0%
Other Means	5.7%	5.9%	0.0%
Worked at Home	2.5%	2.0%	0.0%
1990 % Travel Time to Work:			
0 - 14 Minutes	21.8%	19.2%	0.0%
15 - 29 Minutes	37.4%	40.8%	0.0%
30 - 59 Minutes	34.8%	34.8%	0.0%
60 - 89 Minutes	5.7%	4.6%	0.0%
90 + Minutes	0.3%	0.7%	0.0%
1990 % Educational Attainment (Age 25 & Over):			
Less than Grade 9	10.8%	9.1%	0.0%
Grade 9 - 12 (No Diploma)	15.2%	11.3%	0.0%
High School Graduate	22.4%	18.9%	0.0%
Some College (No Degree)	18.9%	15.0%	0.0%
Associate Degree	4.4%	4.5%	0.0%
Bachelor's Degree	18.2%	26.2%	0.0%
Graduate/Professional Degree	10.1%	15.1%	0.0%
1990 % Population Enrolled in School (Age 3 & Over):			
Preprimary	8.6%	8.8%	0.0%
Elementary/High School	67.6%	57.2%	0.0%
College	23.8%	34.0%	0.0%

Area 1: Circle: 0.5 mile(s): 38.8316,77.0509
Area 2: Circle: 1 mile(s): 38.8316,77.0509

AR102370

(800) 866 - 2255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (1)

A 1 = POTOMAC RAIL YARD
A 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA
1990 Population	34,568	61,348	0
1990 Pop per Square Mile (Pop Density)	5909.1	6763.8	0.0
Area (Square Miles)	5.8	9.0	0.0
1990 Households	14,712	28,236	0
1990 Average Household Size	2.31	2.13	0.00
1990 % Population by Race:			
White	63.7%	68.6%	0.0%
Black	27.1%	21.9%	0.0%
American Indian, Eskimo & Aleut	0.2%	0.2%	0.0%
Asian or Pacific Islander	2.3%	3.1%	0.0%
Other	6.7%	6.1%	0.0%
Hispanic	11.8%	11.4%	0.0%
1990 % Hispanic Population by Type:			
Not of Hispanic Origin	88.2%	88.6%	0.0%
Mexican	0.9%	1.0%	0.0%
Puerto Rican	0.5%	0.5%	0.0%
Cuban	0.2%	0.2%	0.0%
Other Hispanic	10.2%	9.7%	0.0%
1990 % Household Income:			
$ 0 - $ 9,999	6.9%	7.4%	0.0%
$ 10,000 - $ 14,999	4.9%	4.7%	0.0%
$ 15,000 - $ 24,999	12.1%	11.2%	0.0%
$ 25,000 - $ 34,999	14.2%	14.1%	0.0%
$ 35,000 - $ 49,999	18.9%	19.3%	0.0%
$ 50,000 - $ 74,999	21.6%	21.7%	0.0%
$ 75,000 - $ 99,999	11.0%	10.7%	0.0%
$100,000 - $149,999	8.0%	8.1%	0.0%
$150,000 +	2.3%	2.9%	0.0%
1990 Per Capita Income	$ 22,643	$ 25,482	$ 0
1990 Median Family Income	$ 52,900	$ 54,300	$ 0
1990 Median Household Income	$ 43,500	$ 43,900	$ 0
1990 Average Household Income	$ 52,863	$ 54,351	$ 0

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102371

(800) 866 - 2255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11
1990 Census Market Stats

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Population by Sex:			
Male	49.0%	48.6%	0.0%
Female	51.0%	51.4%	0.0%
1990 % Population by Age:			
0 - 5	7.9%	6.9%	0.0%
6 - 13	7.4%	6.3%	0.0%
14 - 17	3.4%	2.9%	0.0%
18 - 20	3.2%	2.8%	0.0%
21 - 24	7.8%	8.2%	0.0%
25 - 34	24.2%	24.5%	0.0%
35 - 44	18.6%	18.5%	0.0%
45 - 54	10.6%	11.2%	0.0%
55 - 64	6.6%	7.2%	0.0%
65 - 74	5.6%	6.5%	0.0%
75 - 84	3.4%	3.7%	0.0%
85 +	1.2%	1.2%	0.0%
Median Age Total Population	33.2	34.3	0.0
Median Age Adult Population	37.8	38.3	0.0
1990 % Female Population by Age:			
0 - 5	7.9%	6.7%	0.0%
6 - 13	7.4%	6.1%	0.0%
14 - 17	3.3%	2.9%	0.0%
18 - 20	3.0%	2.5%	0.0%
21 - 24	7.9%	8.4%	0.0%
25 - 34	23.1%	23.6%	0.0%
35 - 44	18.1%	18.0%	0.0%
45 - 54	9.9%	10.4%	0.0%
55 - 64	6.5%	7.1%	0.0%
65 - 74	6.6%	7.5%	0.0%
75 - 84	4.5%	4.8%	0.0%
85 +	1.8%	1.9%	0.0%
Female Median Age Total Population	33.8	34.9	0.0
Female Median Age Adult Population	38.6	39.0	0.0
1990 Average Family Size	3.00	2.88	0.00

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102372

(800) 866 - 2255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

T.T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (3)

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 Households by Type:			
One Person Households	5,101	11,196	0
Two or More Person Households	9,611	17,040	0
Family Households	7,823	13,466	0
% Married Couple	70.5%	72.9%	0.0%
% Male Householder	7.4%	7.1%	0.0%
% Female Householder	22.1%	19.9%	0.0%
Nonfamily Households	1,788	3,574	0
1990 Family Households With Children Under 18:			
Married Couple Family	2,261	3,625	0
Male Householder	237	379	0
Female Householder	1,074	1,593	0
1990 Population by Household Type:			
Family Households	24,514	40,381	0
Nonfamily Households	9,481	19,809	0
Group Quarters	573	1,158	
1990 Households With:			
Children Under 18	3,623	5,676	0
Persons Over 65	2,415	5,055	0
Householder Over 65	2,146	4,602	0
1990 Housing Unit Counts:			
Total Units	16,152	31,091	0
Occupied Units	14,712	28,236	0
% Owner Occupied	50.2%	44.9%	0.0%
% Renter Occupied	49.8%	55.1%	0.0%
Vacant Units	1,440	2,855	0
% Year Round	94.4%	90.6%	0.0%
% Seasonal	5.6%	9.4%	0.0%
1990 Persons in Unit:			
1 Person	5,101	11,196	0
2 Persons	4,853	9,358	0
3 Persons	2,115	3,663	0
4+ Persons	2,643	4,019	0
1990 Condominiums:			
Total Units	1,910	5,173	0
% Owner Occupied	52.1%	56.9%	0.0%
% Renter Occupied	34.2%	32.4%	0.0%
% Vacant	13.7%	10.7%	0.0%

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102373

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11
1990 Census Market Stats

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 Median Home Value	$220,400	$234,300	$ 0
1990 Average Home Value	$239,302	$258,643	$ 0
1990 Median Contract Rent	$ 627	$ 668	$ 0
1990 Average Contract Rent	$ 671	$ 710	$ 0
1990 Total Housing Units In Structure	16,152	31,091	0
1, Detached	29.8%	24.2%	0.0%
1, Attached	27.5%	23.7%	0.0%
2	1.2%	1.6%	0.0%
3 - 9	16.2%	16.4%	0.0%
10 - 49	9.8%	9.2%	0.0%
50 +	15.1%	24.3%	0.0%
Mobile Home or Trailer	0.0%	0.0%	0.0%
Other	0.4%	0.7%	0.0%
1990 Total Owner Occupied Housing Units In Structure	7,381	12,692	
1, Detached	54.6%	48.6%	0.0%
1, Attached	33.2%	32.8%	0.0%
2	0.4%	0.7%	0.0%
3 - 9	4.3%	8.3%	0.0%
10 - 49	2.1%	2.6%	0.0%
50 +	5.1%	6.5%	0.0%
Mobile Home or Trailer	0.0%	0.0%	0.0%
Other	0.2%	0.5%	0.0%
1990 Total Renter Occupied Housing Units In Structure	7,331	15,544	0
1, Detached	8.1%	6.7%	0.0%
1, Attached	23.3%	17.4%	0.0%
2	2.1%	2.4%	0.0%
3 - 9	27.1%	22.5%	0.0%
10 - 49	16.6%	14.1%	0.0%
50 +	22.3%	36.1%	0.0%
Mobile Home or Trailer	0.0%	0.0%	0.0%
Other	0.5%	0.8%	0.0%
1990 Occupied Housing Units by Year Built	14,801	28,282	0
Built 1985 to March, 1990	2.1%	3.7%	0.0%
Built 1980 to 1984	3.5%	5.0%	0.0%
Built 1970 to 1979	10.5%	14.3%	0.0%
Built 1960 to 1969	13.9%	16.8%	0.
Built 1950 to 1959	22.6%	18.0%	0.0
Built 1949 and Earlier	47.4%	42.2%	0.0%

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102374

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

T.T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (5)

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Marital Status:			
Total Male:	14,195	25,601	0
Never Married	42.9%	43.0%	0.0%
Married	43.5%	43.0%	0.0%
Separated	3.5%	3.5%	0.0%
Widowed	2.0%	2.1%	0.0%
Divorced	8.0%	8.4%	0.0%
Total Female:	14,811	27,277	0
Never Married	34.8%	36.1%	0.0%
Married	40.1%	38.7%	0.0%
Separated	4.0%	3.5%	0.0%
Widowed	10.3%	10.4%	0.0%
Divorced	10.8%	11.3%	0.0%
1990 % Employment Status:			
Total Labor Force:			
Armed Forces	1.7%	1.9%	0.0%
Civilian:			
Employed	72.6%	72.1%	0.0%
Unemployed	3.5%	3.1%	0.0%
Not in Labor Force	22.3%	23.0%	0.0%
Female Labor Force:			
Armed Forces	0.8%	1.0%	0.0%
Civilian:			
Employed	66.6%	66.5%	0.0%
Unemployed	3.5%	2.8%	0.0%
Not in Labor Force	29.1%	29.7%	0.0%
Total Mothers	3,411	5,190	0
Working Mothers:			
Child < 6 Only	24.0%	22.7%	0.0%
Child 6-17 Only	33.0%	33.8%	0.0%
Child < 6 & 6-17	11.1%	10.3%	0.0%
Nonworking Mothers	31.9%	33.2%	0.0%
1990 Households by Number of Vehicles:			
1 Vehicle	6,626	13,420	0
2 Vehicles	4,628	8,092	0
3 Vehicles	912	1,731	0
4 Vehicles	224	350	0
or More Vehicles	41	65	0

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102375

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11
1990 Census Market Stats

AREA 1 = POTOMAC RAIL YARD
AREA 2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Industry Employment:			
Agriculture/Fish/Forestry	1.2%	0.9%	0.0%
Mining	0.0%	0.1%	0.0%
Construction	6.0%	5.7%	0.0%
Manufacturing:			
Nondurable Goods	1.9%	2.3%	0.0%
Durable Goods	2.1%	2.2%	0.0%
Transportation	4.6%	4.4%	0.0%
Communications	3.0%	3.0%	0.0%
Wholesale Trade	1.6%	1.6%	0.0%
Retail Trade	13.3%	11.6%	0.0%
Finance/Insurance/Real Estate	5.7%	6.8%	0.0%
Services:			
Business Repair	7.2%	7.0%	0.0%
Personal	5.6%	5.0%	0.0%
Entertainment/Recreation	1.4%	1.2%	0.0%
Health	4.9%	4.6%	0.0%
Educational	6.4%	5.9%	0.0%
Other Professional and Related	17.0%	18.4%	0.0%
Public Administration	18.0%	19.4%	0.0%
Total	20,829	37,821	0
1990 % Occupation:			
Executive and Managerial	22.5%	24.9%	0.0%
Professional Specialty	22.1%	24.0%	0.0%
Technical Support	5.4%	5.3%	0.0%
Sales	7.9%	7.7%	0.0%
Administrative Support	13.4%	13.0%	0.0%
Service: Private Household	0.7%	0.6%	0.0%
Service: Protective	1.3%	1.3%	0.0%
Service: Other	12.9%	11.0%	0.0%
Farming/Forestry/Fishing	1.0%	0.7%	0.0%
Precision Production/Craft	5.6%	5.0%	0.0%
Machine Operator	1.7%	1.4%	0.0%
Transportation/Material Moving	2.7%	2.4%	0.0%
Laborers	2.8%	2.7%	0.0%
White Collar Total	71.3%	74.9%	0.0%
Blue Collar Total	12.8%	11.5%	0.0%
Total Employed	20,829	37,821	

Area 1: Circle: 1.5 mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

AR102376

(800) 866 - 2255

Donnelley Marketing Information Services
A Company of The Dun & Bradstreet Corporation

E.T.I.

AmericanProfile 08/11/92
1990 Census Market Stats (7)

1 = POTOMAC RAIL YARD
2 = POTOMAC RAIL YARD
AREA 3 =

Description	AREA 1	AREA 2	AREA 3
1990 % Means of Transportation to Work:			
Car, Truck, or Van:			
Drove Alone	51.9%	49.4%	0.0%
Carpooled	15.6%	14.4%	0.0%
Public Transportation	22.5%	24.4%	0.0%
Other Means	7.2%	9.3%	0.0%
Worked at Home	2.8%	2.5%	0.0%
1990 % Travel Time to Work:			
0 - 14 Minutes	20.4%	21.9%	0.0%
15 - 29 Minutes	40.3%	40.6%	0.0%
30 - 59 Minutes	33.3%	32.8%	0.0%
60 - 89 Minutes	5.3%	4.2%	0.0%
90 + Minutes	0.7%	0.5%	0.0%
1990 % Educational Attainment (Age 25 & Over):			
Less than Grade 9	10.5%	8.5%	0.0%
Grade 9 - 12 (No Diploma)	9.5%	8.5%	0.0%
High School Graduate	16.0%	14.7%	0.0%
Some College (No Degree)	13.7%	15.0%	0.0%
Associate Degree	4.2%	4.0%	0.0%
Bachelor's Degree	26.6%	27.8%	0.0%
Graduate/Professional Degree	19.7%	21.4%	0.0%
1990 % Population Enrolled in School (Age 3 & Over):			
Preprimary	10.1%	8.9%	0.0%
Elementary/High School	58.9%	52.5%	0.0%
College	31.0%	38.6%	0.0%

Area 1: Circle: 1. mile(s): 38.8316,77.0509
Area 2: Circle: 2 mile(s): 38.8316,77.0509

Donnelley Marketing Information Services

a company of The Dun & Bradstreet Corporation

MOST ASKED ABOUT DEFINITIONS

Socio-Economic Status Indicator (SESI)

Donnelley Marketing Information Services' proprietary indicator describes geographic areas on the basis of their relative standing on the socio-economic continuum. SESI scores range from 0 to 99 and reflect five socio-economic factors: income, education, occupation, home ownership, and environment. SESI scores have been developed for all types of geographic areas. As a bench mark, the U.S. has a SESI score of 50.

Household Index

This index shows the relative amount by which the percentage of households within a particular cluster in a geographic area differs from that in another geographic area, usually the nation. Values below 100 signify that the area has a lower percentage of households in a particular cluster than the benchmark area. Values above 100 signify that the area has a higher percentage of households in a particular cluster than the benchmark area. For example, a household index of 150 indicates that the area has a percentage of households which is 50 percent greater than the national benchmark.

Private Sector Employment

The number of persons employed in the private sector minus self-employed individuals, railroad workers, and domestic service workers. This data is based on annually updated proprietary information form Dun & Bradstreet's Marketing Services and the Federal Government's County Business File.

Suppression

Confidentiality of the census is not only promised respondents, it is required by law. The Bureau of the Census maintains confidentiality by suppressing the tabulations of characteristics in areas where the population or the number of units is very small.

Certain characteristics are never suppressed. They are:

- Total Population
- Total Housing Units
- Count of Persons or Households in each Race, or Spanish origin group.

Primary suppression will occur where there are fewer than 15 persons and/or fewer than five year-round housing units. Complementary suppression will occur whenever certain characteristics can be used in combination (i.e., subtraction) to identify particular households. Suppression is not a major factor in the Donnelley Demographics database because most of the geographies are large, populated units.

It may affect some Zip code records, however, because these are derived from tract level data.

Alexandria city (1990 Census Data)

Total Population	111,183
Age:	
0 to 19	16.9%
20 to 29	23.9%
30 to 39	22.4%
40 to 49	14.8%
50 to 64	11.7%
65 to 74	5.9%
75 and Older	4.3%
Median Age	*34*
Race:	
White	69.2%
Black	22.1%
Other	8.7%
Average Number of Persons per Family	2.93
Average Number of Persons per Household	2.04
Residence in 1985 (Persons 5 and older):	
Same House	36.8%
Different House, Same State	29.8%
Different State	26.0%
Outside U.S.	7.4%
Median Travel Time to Work in Minutes (for Workers 16 and Older)	*24*
Persons Employed in Construction Industry	3,637
Percent of Workers 18 & Over Employed in Construction	5.1%

Total Number of Households	53,280
Married Couple Households	33.6%
With Own Children Under 18	*12.0%*
Without Own Children Under 18	*21.5%*
Single Person Households	41.9%
Male	*17.0%*
Female	*24.9%*
Householder 65 or Older	13.5%
Family Households	*6.2%*
Non-Family Households	*7.3%*
Household Income:	
$0 to $19,999	15.6%
$20,000 to $29,999	14.7%
$30,000 to $39,999	16.9%
$40,000 to $49,999	14.0%
$50,000 to $59,999	10.6%
$60,000 to $74,999	10.0%
$75,000 to $99,999	9.2%
$100,000 to $149,999	6.3%
$150,000 and Over	2.7%
Median Household Income	*$41,500*

Alexandria city

Total Number of Housing Units	58,252
Occupied Units	53,280
Owner Occupied	40.5%
Renter Occupied	59.5%
Vacant Units	4,972
Vacant: For Rent	61.9%
Vacant: For Sale Only	14.8%
Vacant: Seasonal, Recreational, Occassional	9.8%
Other Vacant	13.5%
Rental Vacancy Rate	*8.8%*
Units in Structure, Owner Occupied Units:	21,561
1, Detached	35.3%
1, Attached	30.8%
2 to 4	1.5%
5 or More	31.7%
Mobile Home or Other	0.7%
Units in Structure, Renter Occupied Units:	31,719
1, Detached	3.2%
1, Attached	12.1%
2 to 4	4.7%
5 or More	79.1%
Mobile Home or Other	0.9%
Units in Structure, Vacant Units:	4,972
1, Detached	7.3%
1, Attached	10.7%
2 to 4	2.8%
5 or More	79.1%
Mobile Home or Other	0.1%
Year Structure Built, All Housing Units:	
1939 or Earlier	10.7%
1940 to 1949	15.3%
1950 to 1959	16.6%
1960 to 1969	24.0%
1970 to 1979	21.6%
1980 to 1984	5.6%
1985 to 1988	3.4%
1989 to March 1990	2.9%
Median Year Structure Built	1963

Residential Building Permits Issued in County	Single Family	Multi-Family	Total
Permits Issued in 1986	164	14	178
Permits Issued in 1987	97	1,398	1,495
Permits Issued in 1988	116	383	499
Permits Issued in 1989	311	1,702	2,013
Permits Issued in 1990	34	20	54
Permits Issued in 1991	104	0	104
Permits Issued in 1992	84	0	84
Permits Issued in 1993 through August	114	106	220

Alexandria city	
Total Number of Housing Units	58,252
Units with 1 or 2 Rooms	12.1%
Units with 3 Rooms	19.2%
Units with 4 Rooms	22.7%
Units with 5 Rooms	16.9%
Units with 6 Rooms	12.2%
Units with 7 Rooms	7.2%
Units with 8 or More Rooms	9.7%
Median Number of Rooms per Unit	4
Bedrooms, Owner Occupied Units:	
Units with 0 or 1 Bedroom	14.8%
Units with 2 Bedrooms	30.4%
Units with 3 Bedrooms	36.1%
Units with 4 or More Bedrooms	18.7%
Bedrooms, Renter Occupied Units:	
Units with 0 or 1 Bedroom	52.8%
Units with 2 Bedrooms	33.8%
Units with 3 Bedrooms	11.6%
Units with 4 or More Bedrooms	1.7%
Overcrowding, Owner Occupied Units:	
Units with 1 to 1.5 Persons per Room	0.8%
Units with More than 1.5 Persons per Room	0.7%
Overcrowding, Renter Occupied Units:	
Units with 1 to 1.5 Persons per Room	2.9%
Units with More than 1.5 Persons per Room	3.9%
Value of Owner Occupied Units:	
Under $30,000	0.1%
$30,000 to $39,999	0.0%
$40,000 to $49,999	0.1%
$50,000 $59,999	0.3%
$60,000 to $74,999	0.5%
$75,000 to $99,999	3.8%
$100,000 to $149,999	16.2%
$150,000 to $249,999	37.3%
$250,000 to $399,999	26.8%
$400,000 and Over	14.9%
Median Value of Owner Occupied Units	$228,000
Gross Monthly Rent for Renter Occupied Units:	
No Cash Rent	0.8%
Under $100	0.8%
$100 to $199	2.6%
$200 to $299	1.4%
$300 to $399	1.3%
$400 to $499	4.3%
$500 to $599	13.8%
$600 to $749	35.9%
$750 to $999	28.9%
$1,000 and Over	10.2%
Median Gross Monthly Rent	$701

Attachment D

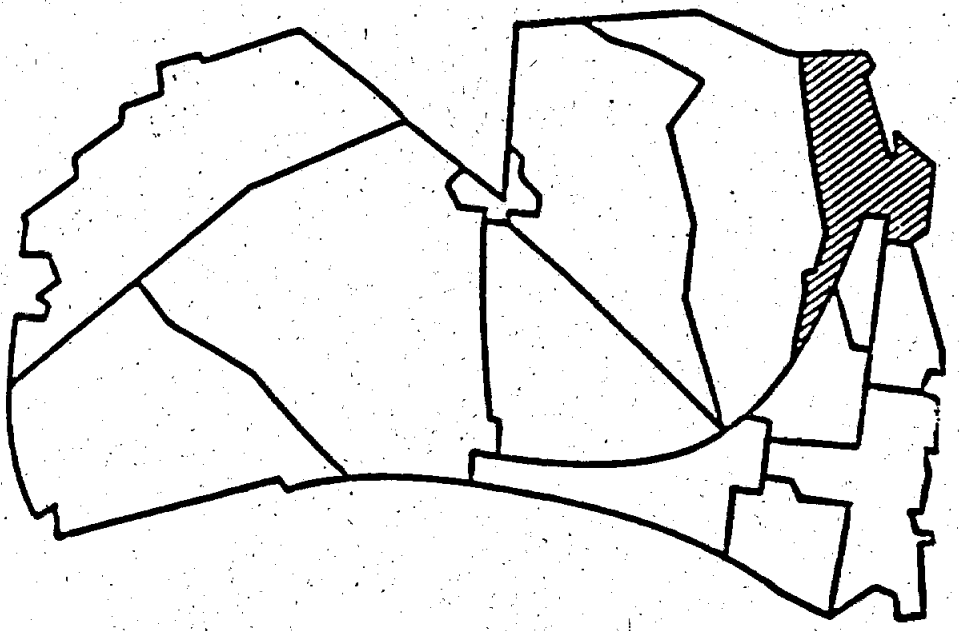
Potomac Yard/Potomac Greens Small Area Plan chapter of City of Alexandria Master Plan

Zoning Ordinance No. 3604 regarding implementation of amendments to Alexandria Master Plan for the Small Area Plan

Section 5-600 Alexandria Coordinated Development District guidelines/ordinances

POTOMAC YARD/POTOMAC GREENS

SMALL AREA PLAN



ADOPTED 1992 MASTER PLAN

ALEXANDRIA, VIRGINIA

POTOMAC YARD/POTOMAC GREENS

SMALL AREA PLAN

ALEXANDRIA CITY COUNCIL

Mayor Patricia S. Ticer

Vice Mayor William C. Cleveland

Kerry J. Donley

T. Michael Jackson

Redella S. Pepper

Lonnie C. Rich

David G. Speck

CITY MANAGER

Vola Lawson

PREPARED BY:

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

Staff:

Sheldon Lynn, Director

Larry Grossman, Chief
Comprehensive Planning

Amy Bennett
Kimberley Johnson
Raymond Johnson
Nancy Laurence
Ralph Rosenbaum
Gregory Tate

JUNE 13, 1992: ORDINANCE 3576

TABLE OF CONTENTS

LIST OF MAPS

LIST OF FIGURES

LIST OF TABLES

PURPOSE OF THE PLAN

The purpose of this document is to update the Adopted 1974 Consolidated Master Plan for the Potomac Yard/Potomac Greens area and as a part of the City's new Master Plan. Once adopted, the Small Area Plan will serve as the basis for future City Council policy initiatives and actions affecting land use, zoning, capital improvements and programs in the Potomac Yard/Potomac Greens area.

ORGANIZATION AND CONTENTS

The Small Area Plan is organized into two sections: Background and Issues and Recommendations. The first section reviews and analyzes existing conditions and trends in the study area including physical description, demographics, land use, zoning economic development activities and trends, transportation and urban design. This section also retraces past City policies in the area, including the 1974 Master Plan, rezoning, resolutions and capital improvement programs. Based on this analysis this section identifies issues which need to be addressed in the plan for the area.

The second section lists the goals, objectives and specific recommendations on land use, zoning, transportation and urban design.

BACKGROUND AND ISSUES

DESCRIPTION OF THE AREA

The Potomac Yard/Potomac Greens plan area (Map 1) is located in the northeastern section of the City along the Potomac Corridor. This area is bounded generally by Jefferson Davis Highway (U.S. Route 1) on the west; Four Mile Run on the north; the Potomac River on the east; and the eastern right-of-way of the RF&P Railroad tracks, Slaters Lane, and the northern property lines of Potowmack Crossing Apartments, the Towngate Office Development and Marina Towers to the south.

The George Washington Memorial Parkway runs north-south through the study area, physically separating two distinctly different sections of the study area. East of the Parkway on the Potomac River is the federally owned park area, Daingerfield Island. To the west of the Parkway are the Potomac Yard and Potomac Greens, properties of the RF&P Railroad.

Daingerfield Island

Daingerfield Island is a 109 acre, federally owned park which is part of the George Washington Memorial Parkway System. The park is located east of the Parkway on the Potomac River and includes a sailing marina, a restaurant, several multi-purpose playfields and a wooded park area.

Potomac Yard/Potomac Greens

Within the 264.2 acres comprising the Alexandria portion of the Potomac Yard are the RF&P Railroad tracks, the Amtrak service route and the Metrorail line. The Yard contains facilities for classifying, interchanging and servicing freight cars and engines. Along the southeastern portion of the Yard east of the Metrorail tracks is a piggyback facility involving the transport of truck trailers by flatbed rail cars.

North of the piggyback facility is the Potomac Greens site. This parcel is a 38.6 acre vacant tract of railroad property, adjacent to the Parkway, for which the RF&P Railroad has proposed to develop 2.4 million square feet of predominately commercial office uses.

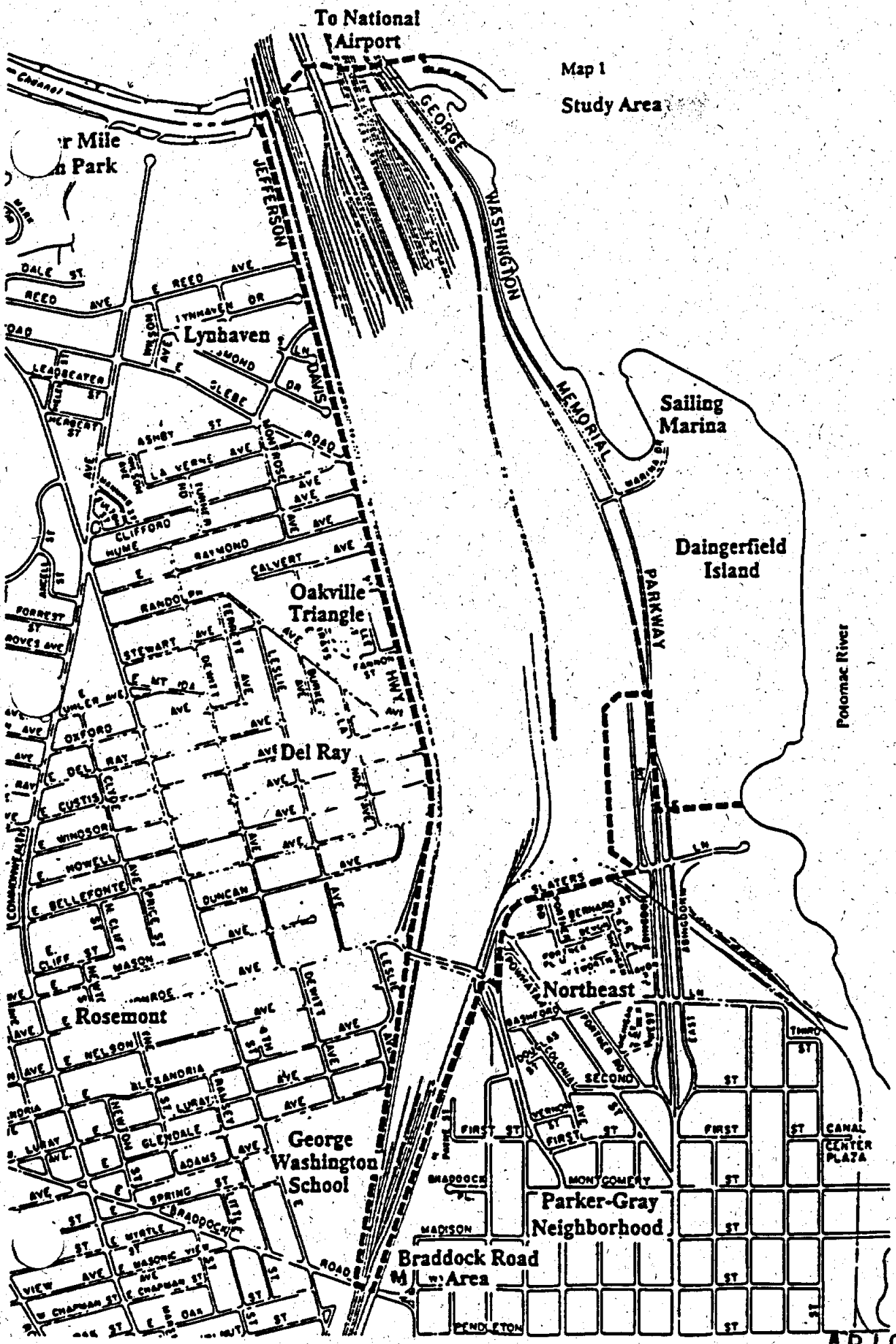
AREA HISTORY

The Potomac Yard/Potomac Greens study area is part of the original 6,000 acre tract purchased by John Alexander, the founder of the City of Alexandria. When the cities of Alexandria and Georgetown were established in the 1700s, a transportation corridor was developed along the site. In 1843, the Alexandria Canal was completed through the site, running along the western edge of Potomac yard and providing a link to the C&O Canal at Georgetown. The Canal ceased operation in the late 1880s, as railroad use increased.

The first rail line on the Potomac Yard was completed in 1857 and connected Old Town Alexandria with South Arlington. Service was soon extended between Alexandria and Leesburg. The Potomac Yard opened in 1906 for the purpose of classifying the freight of six different railroads. Known as the "Gateway to the South," the new yard was one of the largest in the United States. Yard operations reached their peak during World War II.

The Railroad Yard provided a major impetus for the development of surrounding residential areas. The town of Potomac, now the Del Ray and Mt. Jefferson neighborhoods in Alexandria, was known as a railroad town; many of its residents were railroad workers.

Today, about 1,500 cars a day are processed by the Yard, down from a peak of almost 5,000 cars years ago. Half of the Yard has already been closed, and the RF&P Railroad now plans to close the remainder of the Yard and maintain just a rail corridor through the site.


To National Airport
Map 1
Study Area
Lynhaven
Oakville Triangle
Del Ray
Rosemont
George Washington School
Braddock Road Area
Parker-Gray Neighborhood
Northeast
Sailing Marina
Daingerfield Island
Potomac River
JEFFERSON
WASHINGTON
MEMORIAL
PARKWAY
Potomac Yard /

DEMOGRAPHICS

Population

There is no residential development, and therefore no population, in the Potomac Yard/Potomac Greens planning area.

Employment

An estimated 268 persons were employed within the Potomac Yard/Potomac Greens Area in 1990. Over half of these persons (54%) are employed by the railroad at Potomac Yard. The number of persons employed at the railyard has been declining since the late 1970s as railyard operations have been declining; less than half the volume of freight cars are handled by the Potomac Yard compared to the late 1970s.

The remainder of the persons employed in the area work at Daingerfield Island, at the sailing Marina and restaurant; and in the commercial service buildings in the north side of Slaters Lane.

Table 1

Estimated Employment[1]

Area	1980	1985	1990
Potomac Yard	388	323	143
Daingerfield Island	10	10	50
Slaters Lane Area	-	47	73
Total Employment	390	333	193

[1]Estimated by the Dept. of Planning and Community Development.

EXISTING LAND USE

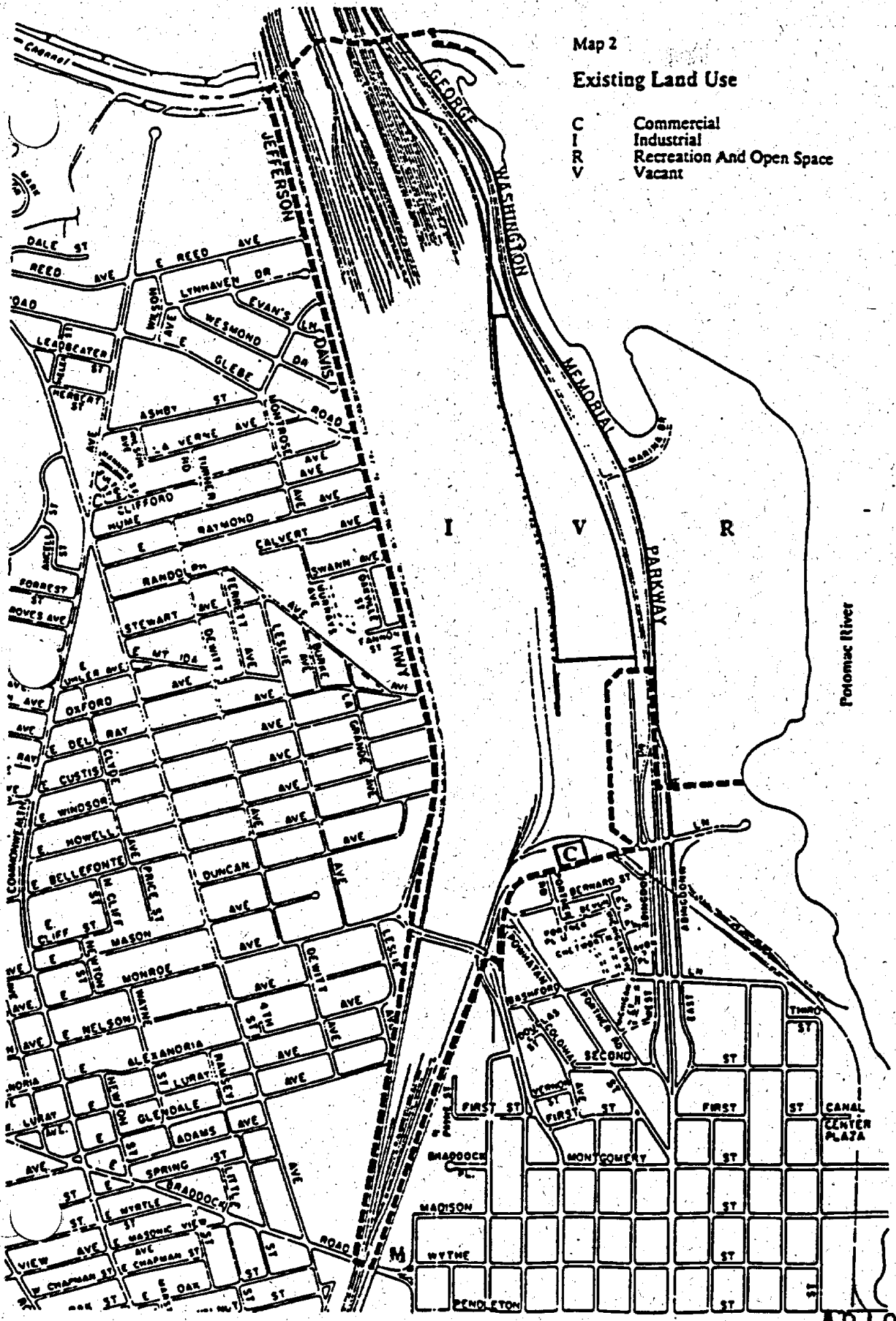
The Potomac Yard/Potomac Greens study area consists of approximately 412.9 acres. The major land uses within the tract are railroad transportation use and park use; there is also the large vacant Potomac Greens parcel and a small amount of service commercial use. Map 2 shows the existing land use.

Transportation/Utility Land Use

About 266 acres, over two-thirds of the total land area within the study area, is used for railroad use and is classified as transportation/utility (Table 2). The RF&P Potomac Yard is known as the "Gateway to the South" and provides terminal service to five different railroad companies. The basic function of the yard is to receive, classify and dispatch freight cars servicing the Eastern Seaboard. As indicated previously, this function is being phased out; trackage on the southbound hump is already being removed as of this writing. The railroad land use also includes the right-of-ways for passenger, freight, and Metro rail service.

Park, Recreation and Open Space Land Use

Daingerfield Island is a 109 acre recreation area owned by the Federal Government which includes facilities for sailing, biking, hiking and field sports.



Potomac Yard /

A sailing marina is located at the northern tip, with slips for 185 boats and a dry storage area for about 450 boats. The marina also includes boat storage sheds, a repair and ramp area and a five-ton boat crane. A new restaurant, snack bar and concession shop were recently constructed in this area. Further south is a picnic area and a soccer field.

The center of Daingerfield Island includes a National Park Service tree research nursery and maintenance facility. This part of the site is not open to the public.

There is a natural zone occupying the remainder of the site. In accordance with the Master Plan for Daingerfield Island this portion of the site to be kept in its natural state.

The Mount Vernon Trail, a bike and pedestrian path, runs through Daingerfield Island adjacent to the Parkway. This is a 17 mile trail stretching between Roosevelt Island and Mount Vernon.

Table 2

EXISTING LAND USE[1]

Land Use	Square Feet	Acres	Percent
Utility/Transportation	11,578,248	264.2	64.0
Recreation/Open Space	4,748,040	109.0	26.4
Service Commercial	41,213	0.9	0.2
Vacant	1,679,673	38.6	9.4
Total	18,047,174	412.9	100.0

[1]Land use area is estimated on data from several sources.

Service Commercial

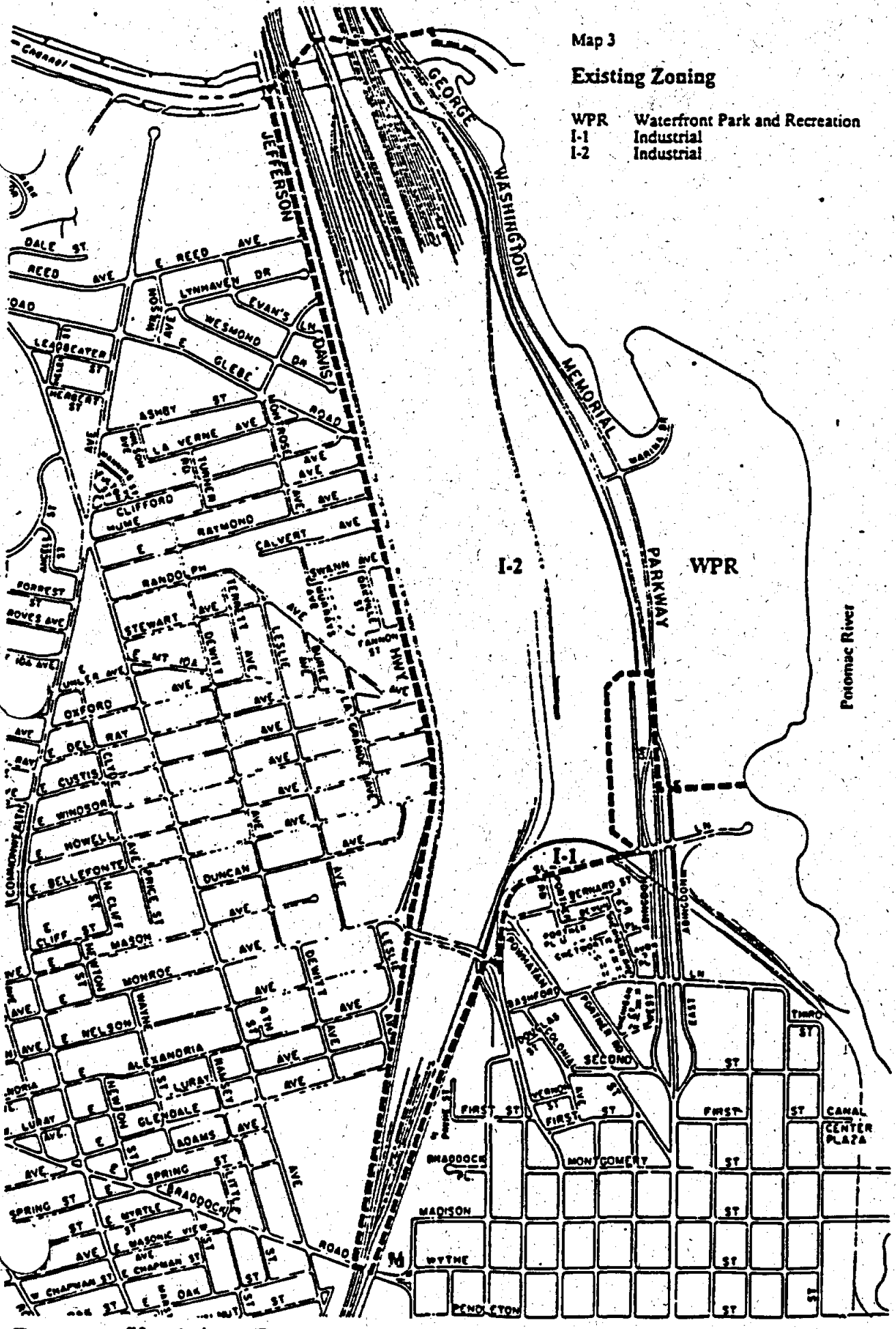
A small amount of land (0.9 acres) on the north side of Slaters Lane is in service commercial use. There are three warehouse type buildings in this area, including two located on property leased from the RF&P railroad. These buildings are occupied by Domino's Pizza, an Avis garage and storage facility and a commercial firm, Staff Directories Ltd.

Vacant Land

The only vacant parcel within the study area is the Potomac Greens site which comprises 9% of the study area.

EXISTING ZONING

Existing zoning within the area (Map 3) is generally I-2 Industrial west of the George Washington Parkway, on the Potomac Yard and Potomac Greens parcels; and WPR-Waterfront Parks and recreation east of the Parkway, on Daingerfield Island. There are also a few acres with I-1 Industrial zoning.



Map 3

Existing Zoning

WPR	Waterfront Park and Recreation
I-1	Industrial
I-2	Industrial

Potomac Yard / Potomac Greens

Industrial Zoning

In total, about 298 acres are zoned industrial, and all but 3.4 of these acres are zoned I-2 Industrial. The I-2 zone allows heavy industrial uses such as railroad yards, warehouses and truck terminals, but also allows high density commercial development up to a Floor Area Ratio (F.A.R.) of 3.0. Commercial and residential development up to a 5.0 F.A.R. is allowed under the I-2 zoning with a Planned Unit Development. The small amount (3.4 acres) of I-1 Industrial is located on the north side of Slaters Lane. The I-1 zone is similar to the I-2 zone but does not allow heavy industrial uses; it also allows high density commercial development up to a 2.5 F.A.R. by right or a 5.0 F.A.R. with a Planned Unit Development.

Waterfront Park and Recreation

The 109 acres of Daingerfield Island are zoned WPR-Waterfront Park and Recreation. The WPR zone limits the use of property to waterfront activities such as boating and docking facilities, restaurant use, public buildings and public parks. This zone does not have a F.A.R. limitation, but limits a building's lot coverage to a maximum 30 percent and requires that a minimum of 25 percent of the area be open space.

Table 3

Existing Zoning

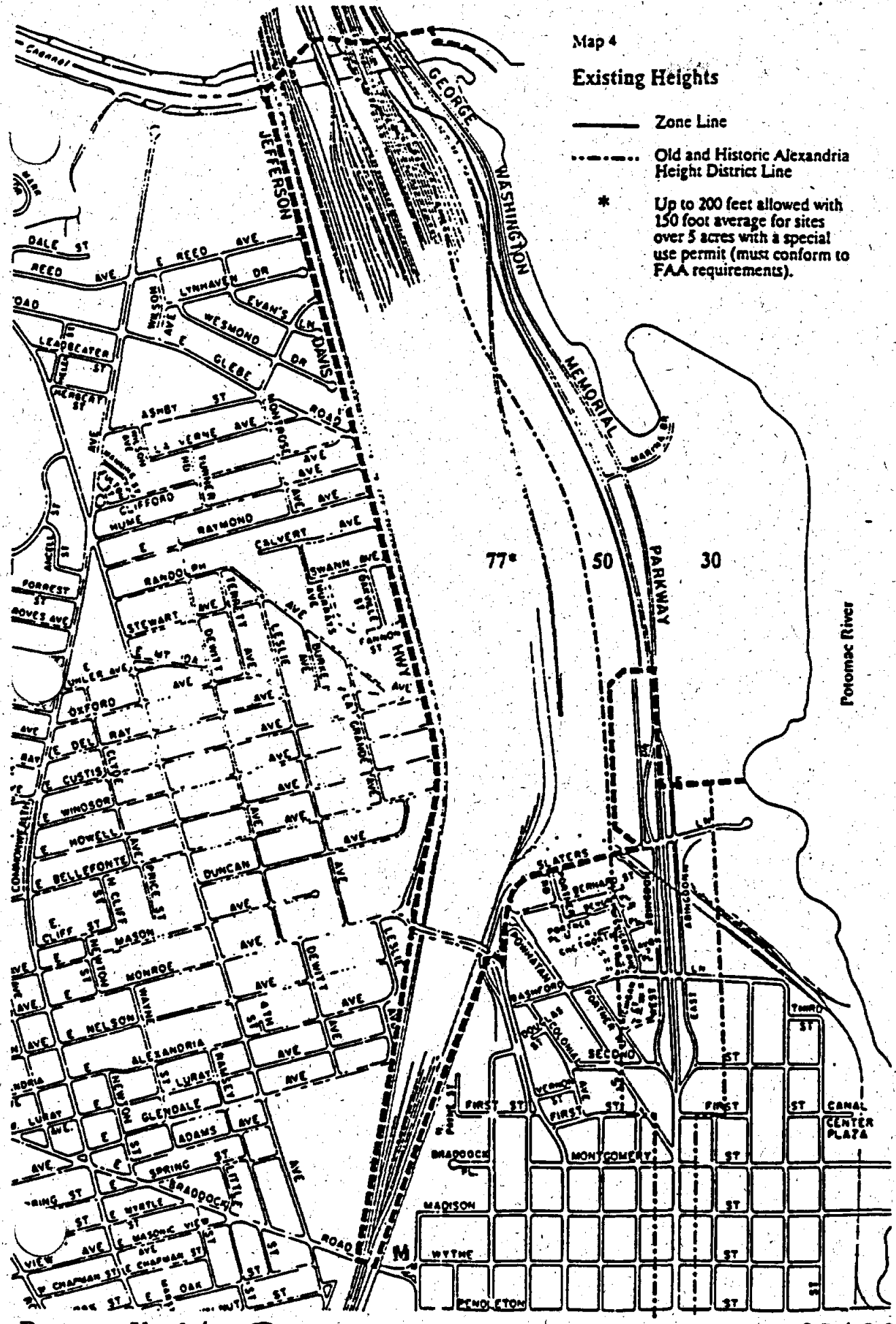
Zone		Square Feet	Acres	Percent
Industrial	I-1	148,104	3.4	0.8
	I-2	13,150,764	301.9	73.0
Waterfront,Park & Recreation	WPR	4,748,040	109.0	26.2
Total		18,046,908	414.3	100.0

EXISTING HEIGHT LIMITS

Height limits in the area are determined by the Old and Historic Alexandria District and by zoning restrictions (Map 4.) The Old and Historic Alexandria District limits height to 50 feet within 500 feet of the center line of the George Washington Memorial Parkway. To the east of the Parkway, on Daingerfield Island, the WPR zoning restricts heights to a maximum of 30 feet.

West of the Parkway and outside of the Old and Historic District, development rights are limited by the industrial zoning to 77 feet by right. Additional height, up to 200 feet is possible with a special use permit under the existing industrial zoning.

Heights in the area are also subject to FAA height limitation because of this area's location relative to National Airport. These FAA regulations are discussed below in the section on development constraints.



Potomac Yard / Potomac Greens

ENVIRONMENTAL CONDITIONS

Topography

The Potomac Yard/Potomac Greens Area's topography is flat to gently sloping, with elevations ranging from 2.5 to 49 feet. East of the Parkway, on Daingerfield Island, elevations range from 2.5 to 10 or 11 feet. The limited areas where the elevation drops below three feet consist of drainage areas which act as ponding areas during periods of heavy rain. These areas are in their natural state.

The land west of the Parkway, at Potomac Yard and Potomac Greens, is gently sloping. Elevations range from 10 to 49 feet, with most of the land between the elevation of 25 and 37 feet. The highest elevations are at the man-made hump used to switch railroad cars.

Flood Plain

The City's 1991 Flood Plan Maps show that about half of the study area is located within the 100 year flood plain; that is, within the area likely to be partially or completely inundated by a level of flooding that occurs at least every 100 years.

The 100 year flood plain covers Daingerfield Island, the Potomac Greens site, and a small portion of the Potomac Yard located at the northern end of the site along Four Mile Run (Map 5).

The City code restricts development within the floodplain in accordance with Federal regulations. These regulations restrict residential development within the floodplain, unless the first floor of the structure is raised above the 100 year flood level. Non-residential development is allowed to be built within the flood plain provided that utility and sanitary facilities are flood-proofed up to the 100-year flood level and that other restrictions relating to electrical and mechanical systems are observed.

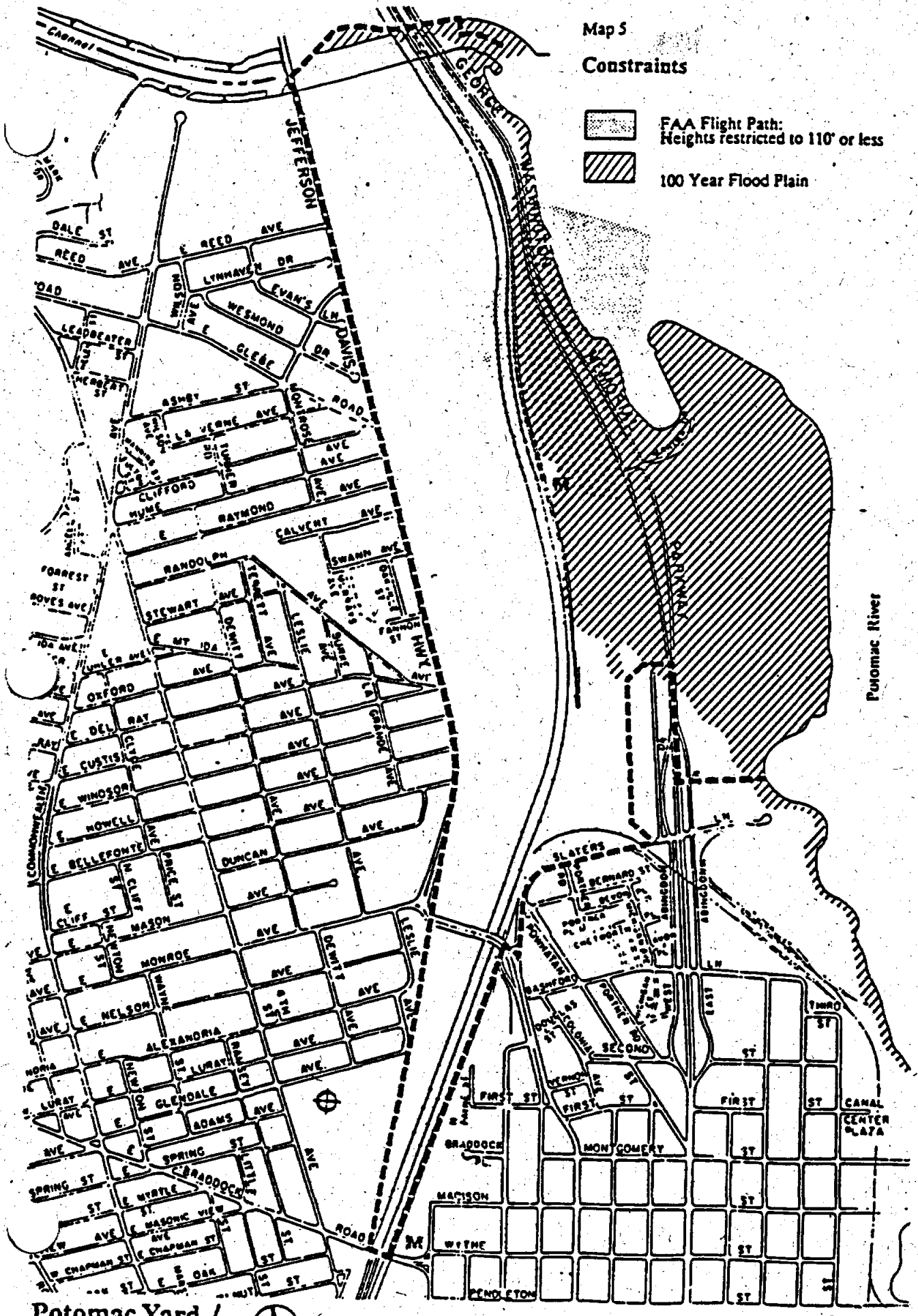
The City code also prohibits any kind of filling within the flood plain area that would increase the water surface elevation of the 100 year flood more than 0.5 feet.

Wetlands

Currently, wetlands regulation in the City is developed and enforced by the Army Corps of Engineers and the Virginia Marine Resources Commission. Corps regulations require the protection and/or replacement of wetlands during the development process. The law requires that the Corps review all development projects involving either dredging or filling (i.e. any change in grade or land disturbance) within wetlands. Individual project permits are required for projects involving ten or more acres of wetlands disturbance. Projects with less than ten acres of disturbance may qualify for consideration under a general permit but the Corps retains the discretion to require a specific project permit according to the circumstances. In addition, all development in tidal wetlands requires a specific project permit from the Virginia Marine Resources Commission in accordance with the Virginia Wetlands Act. The Corps and other federal and state agencies define wetlands as those areas meeting all three criteria:

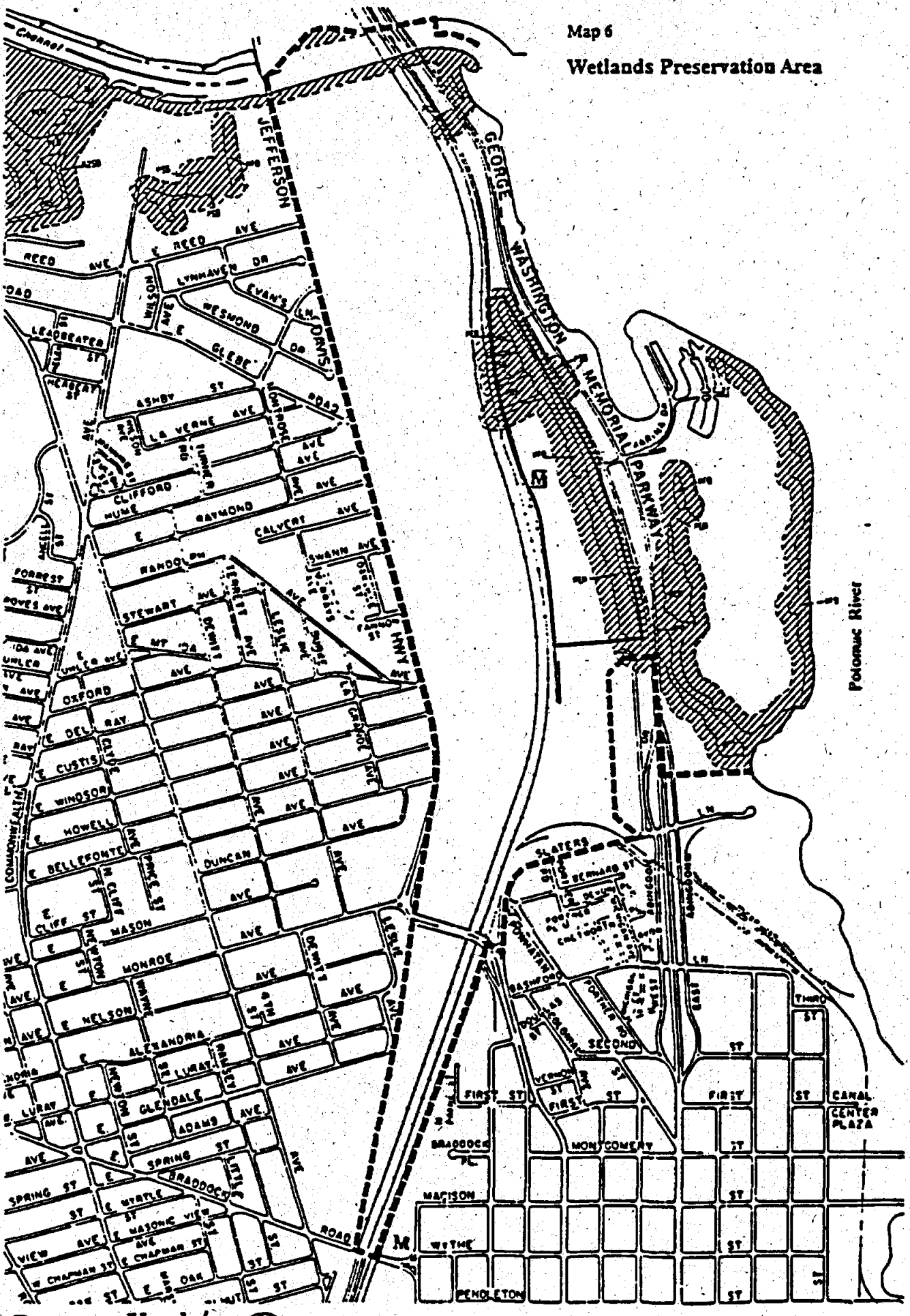
- the area must exhibit wetlands hydrology
- the predominant vegetation must be wetlands type vegetation
- it must have hydric soils.

Based on this definition and preliminary research, a consultant, working for the Northern Virginia Planning District Commission in conjunction with implementation of the Chesapeake Bay Preservation Act, has mapped existing wetlands within the study area. One wetland area is located on the east side of the George Washington Parkway in the south central part of Daingerfield Island. The other wetland area is located along the west side of the George Washington Parkway (see Map 6).


Map 5
Constraints
FAA Flight Path:
Heights restricted to 110' or less
100 Year Flood Plain
Potomac River
JEFFERSON
GEORGE WASHINGTON
MEMORIAL PKWY
HWY
ROAD
DAVIS
Potomac Yard /
Potomac Greens
N

Map 6

Wetlands Preservation Area



Potomac Yard / Potomac Greens

Chesapeake Bay Preservation Act

These wetlands in the study area will be affected by the Chesapeake Bay Preservation Act. This Act was enacted by the Virginia General Assembly in 1988 to initiate a cooperative state and local effort to protect the water quality of the Chesapeake Bay and its tributaries through land use control management.

Under the direction of the Chesapeake Bay Local Advisory Board, the City of Alexandria, like other jurisdictions throughout northern and eastern Virginia, formulated a local ordinance which implements the State's Chesapeake Bay Preservation Act. The Ordinance, which was adopted January 28, 1992, establishes policies that will protect the quality of water in the Chesapeake Bay and its tributaries through the control of non-point pollution.

Specific land management policies will apply to each class of land in the City. The most environmentally sensitive areas, including all wetlands, are classified as "Resource Protection Areas" and are limited to redevelopment and water dependent development as defined in the Chesapeake Bay regulations, except for specific exceptions contained in the act such as public roads and utilities. This ordinance will affect development within the study area, particularly on the Potomac Greens site where there are wetlands.

Hazardous or Toxic Soil Conditions

A 1977 City map of areas in the City which are exposed to possible contamination of soils indicates that the study area is free of arsenic contamination, methane gas generation and other hazardous soil conditions. As the draft Environmental Impact Statement for the Potomac Greens site prepared by the National Park Service notes, there is a possibility, based on past uses of the RF&P rail yard, that some of the soils in the study area are contaminated with hazardous materials, including PCBs and heavy metals. However, there is no evidence to confirm this.

A preliminary analysis of soils on the Potomac Yard section of the site was conducted by Hydrosystems, Inc. in 1988 and was reviewed by the Virginia Department of Waste Management. Soil or water samples were collected from ten locations on the Potomac Yard. The soil analysis showed no particular problems on the site with PCB, volatiles, metal or arsenic concentrations. Extensive additional testing, and remediation in the event of adverse findings, would be required under Federal and State regulations prior to any development of the area. The site is also currently under review by the U.S. Environmental Protection Agency Region III Superfund program.

The 1988 Hydrosystems study states that the northern part of the Potomac Yard is composed of marshland that was filled some time ago with fly ash. The Potomac Greens Draft EIS indicates that there is also a 6 to 16 foot layer of fly ash on much of the Potomac Greens site.

ADDITIONAL FACTORS AFFECTING DEVELOPMENT

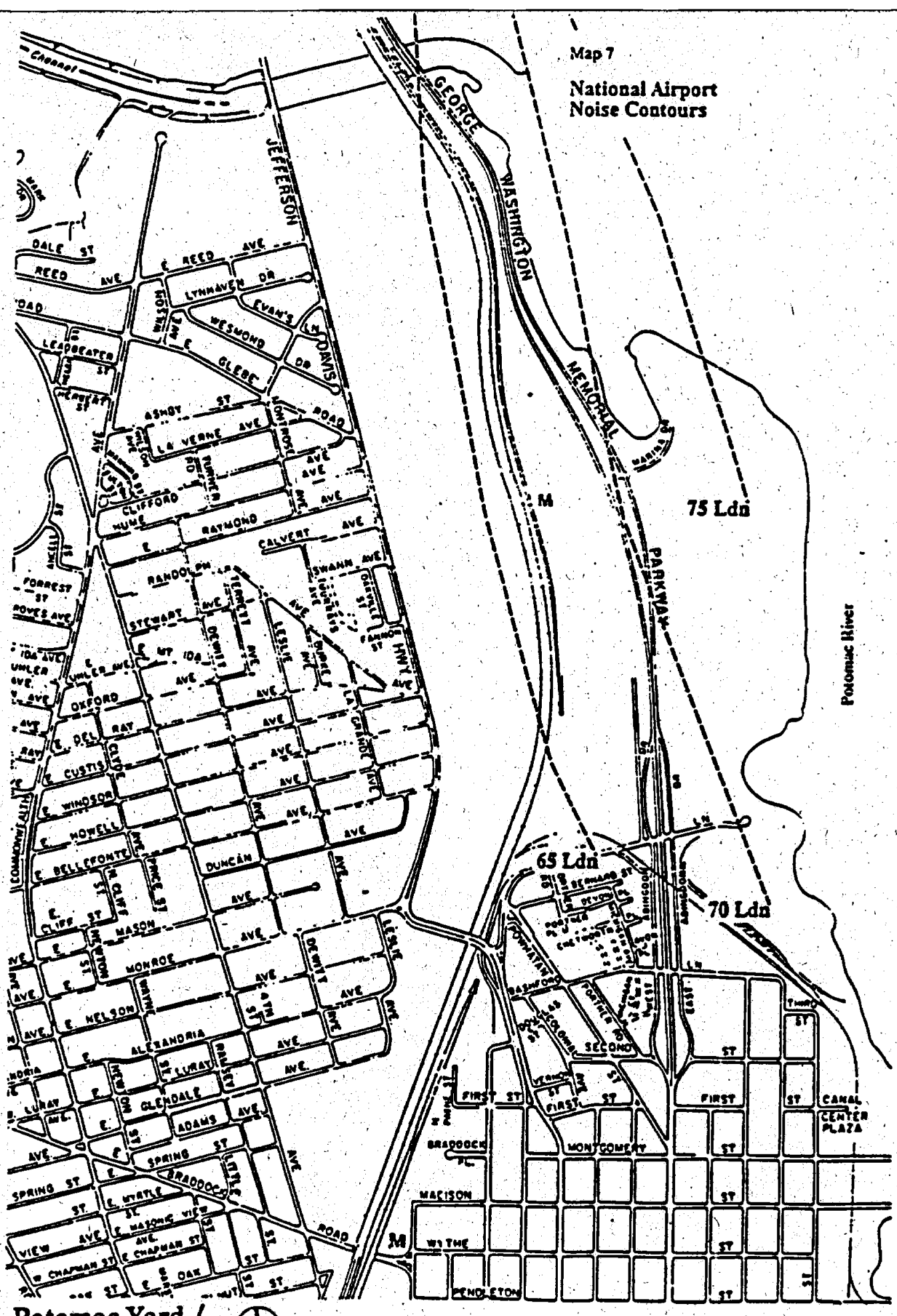
Federal Aviation Administration Height Restrictions

Heights within the study area are limited by Federal regulations because of the location relative to National Airport. The FAA regulations restrict heights in the area to 150 feet above the existing airport elevation. Since National Airport, which was built at 16 feet above sea level, no building can be built above 166 feet above sea level. This restriction applies to the entire study area.

In addition to the overall restriction of building height to 166 feet above sea level, the FAA limits heights of structures along the approach to airport runways. Because the flight path to one of the runways of National Airport passes directly over the Potomac Yard/Potomac Greens Study Area, building height along a portion of the center of the site is restricted to between 66 and 166 feet above sea level (see Map 5).

Map 7

National Airport Noise Contours



Potomac Yard / Potomac Greens

Noise

Most of the land within the study area is impacted by noise from National Airport flight patterns. In addition, Metro and railroad noise have significant impacts in the area near the rail corridor.

The Federal Aviation Administration provides voluntary guidelines for noise levels in areas near airports. These guidelines establish a grid around airports which estimate decibel levels. The FAA grid estimates that most of Potomac Yard and Potomac Greens are in the 65-70 Ldn (Level Day Night noise, the standard measure of environmental noise) range, with the eastern section of Potomac Greens and all of Daingerfield Island in the 70-75 Ldn range (see Map 7).

A 1989 study conducted by Polysonics for Alexandria 2020 summarized generally recommended noise-land use compatibilities:

Noise Level	Compatible Land Uses
Less than 65 Ldn	Residential and all uses
65-70 Ldn	Residential, educational, *hospital not recommended.* Commercial acceptable.
70-75 Ldn	Residential, educational, hospital unacceptable. Commercial acceptable.
75 Ldn	Airport, railroad functions only

A preliminary noise analysis of the Potomac Yard conducted by Polysonics for Alexandria 2020 in 1989 showed Ldn levels ranging from 67-68 Ldn on the southern and western portions of the Potomac Yard site to 78 Ldn on the eastern portion of the site. The noise level will be reduced when the Potomac Yard closes.

1. Commercial uses are compatible with the noise levels over the entire site.

2. Residential uses should be set back from railway tracks, metro tracks, U.S. Route 1, and the east side of the northern portion of the Potomac Yard site because of aircraft noise; should be buffered from the rail and aircraft noise by commercial uses; and should be designed acoustically to reduce interior noise.

Noise measurements on the Potomac Greens site taken in conjunction with the EIS showed sound levels of 68 Ldn to the west and 65 Ldn to the east.

Railroad Services

The RF&P classification yard is planned to be phased out over time, leaving only a rail corridor. In addition to freight service, this corridor must serve Amtrak rail service, which currently passes through the western edge of the site. Commencing in the Fall of 1991, commuter rail service from Fredericksburg and Manassas to Washington D.C. will also make use of this rail corridor. According to RF&P, two rail lines are needed to maintain service. This rail corridor will require a 90 to 120 foot wide area through the site. Any structures built over the rail lines must provide a clearance of at least 27 feet.

In addition to the rail service that traverses the rail yard, there is a rail spur line that services the Pepco power plant at Slaters Lane and Robinson Terminal at North Union Street between Pendleton and Oronoco Streets. This spur line is used in the evening or night on a daily basis to resupply coal to Pepco and is used to supply newsprint paper to Robinson Terminal. This spur line may need to be maintained.

Easements and Right-of-Ways

A number of easements and right-of-ways traverse the Potomac Yard, as described below.

Metrorail Right of Way

The Washington Area Metro Transit Authority right-of-way traverses the Potomac Yard area. The line runs above ground along the eastern edge of the Yard on the northern portion of the site, then goes underground and crosses under U.S. Route 1; emerging above ground again for the remainder of the service route.

Electric Transmission Line Easements

There are currently two PEPCO electric power transmission line easements that are within the Potomac yard rail facility. One easement contains a 230,000 volt overhead transmission line that is located along the east side of Jefferson Davis Highway. A second easement is located just north of the Monroe Avenue Bridge and contains a 69,000 volt cable underground. The high-voltage line will have to be undergrounded as development on the site occurs.

Jet Fuel Pipe Line

A jet fuel pipe line, which provides fuel to National Airport, is located along the eastern side of the Potomac Rail yard property just west of the Washington Metro right-of-way. This pipeline must be maintained, but its location could be shifted to accommodate development, if necessary.

Telephone Company Easements

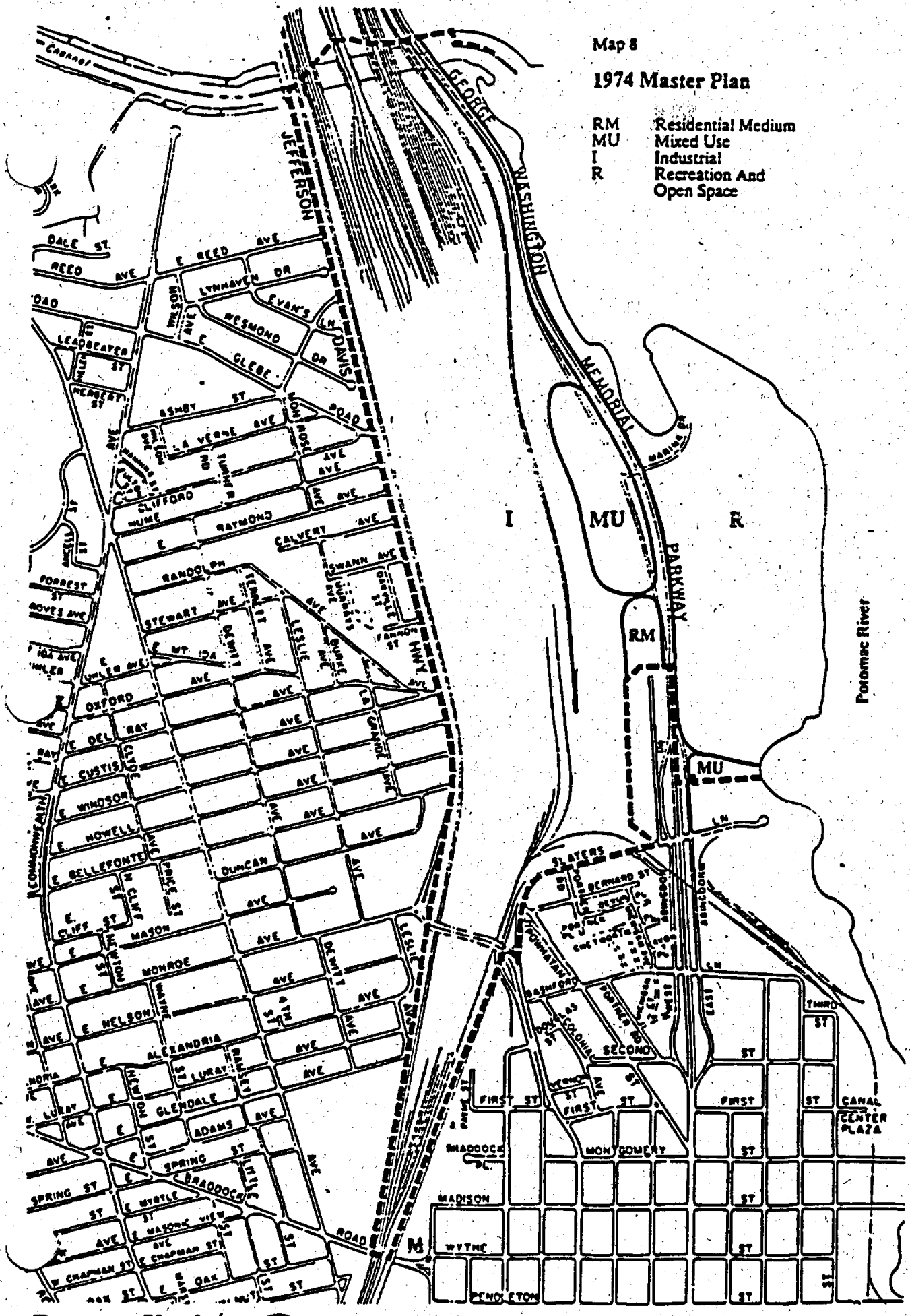
Easements containing underground MCI fiber optic cables and C&P lines are located near the Monroe Avenue Bridge. These facilities must be accommodated through the site; however their location could also be shifted if necessary to accommodate development.

LAND USE POLICY HISTORY

1974 Consolidated Master Plan

The 1974 Land Use Plan (see Map 8) designated the railroad yards Industrial, for continuing industrial use, and Daingerfield Island Park, for continuing recreation and open space use (see Map 17).

The vacant Potomac Greens tract was the only site within this study area that was envisioned for development in the 1974 plan. The 1974 plan designated the Potomac Greens site as a "development potential" area in recognition of the vacant site's convenient location to the National Airport and downtown Washington and away from single family residential areas. The 1974 plan noted that full development of the site was contingent on the resolution of access problems. The 1974 plan recommended that the site be developed for a mix of uses with the intensity of the development governed by the overall design of the project and the impact of projected traffic levels on the surrounding areas.



Potomac Yard / Potomac Greens

Rezonings

Since the adoption of the 1974 Consolidated Master Plan, the only rezoning in the study area has been the rezoning of Daingerfield Island and the Parkway from RA Residential to WPR Waterfront Park and Recreation. This rezoning was consistent with the existing and planned use of the area for water-related open space and recreation purposes.

Potomac Greens Site

The potential development of the vacant Potomac Greens site has been the focus of substantial debate since 1970, when the National Park Service traded access rights from the George Washington Parkway to the Potomac Greens site in exchange for a 28 acre site in Fairfax County known as Dyke Marsh.

The exchange agreement was made between the Park Service and Charles Fairchild, who at that time held a long term lease for the Potomac Greens site from the RF&P Railroad. The agreement expressly restricts access to the interchange to include only the Potomac Greens site.

Between 1973 and 1977, Mr. Fairchild made several development proposals for what was then called the Potomac Center site; one with almost 15 million square feet of mixed use development and a second with about half that amount of development. However, the only formal site plans filed with the City were two different applications for a single office building on a portion of the site. The first site plan was denied by the Planning Commission in November 1973 because no comprehensive development proposal for the site was presented and because the proposed building appeared to encroach on planned Metrorail right-of-way. The second site plan, for a single office building of 124,000 sq.ft., was approved by the City in 1975. However, the Fairchild Company did not commence construction and the site plan expired in 1977.

Mr. Fairchild submitted no additional development plans to the City, but he did pursue approval of an interchange design with the National Park Service, submitting concept plans for the interchange to the Park Service in 1975. Although Mr. Fairchild was able to get an interchange concept approval from the Park Service, he was not able to get all of the other federal approvals required to construct the interchange, and in January 1982, the RF&P Railroad Company terminated Mr. Fairchild's lease on the property.

Following its termination of Mr. Fairchild's lease, RF&P pursued the federal approvals for construction of the interchange. RF&P secured approvals for the interchange from the Fine Arts Commission and the National Capital Parks and Planning Commission in 1983. In September 1986, the Savage Fogarty Company, in joint venture with RF&P, submitted a special use permit application to the City for the construction of a mixed use, planned unit development of 2,004,000 sq.ft. of office space, 107,000 sq.ft. of retail space, a 300 room hotel and 202 residential units on the old Fairchild leasehold and renamed the project Potomac Greens.

When the City deferred action on the proposal, Savage Fogarty withdrew the application and the Potomac Greens Associates submitted a site plan for 2,343,300 sq. ft. of office space and 107,100 sq.ft. of retail space. This second plan was rejected by the Planning Commission in May 1987 and, on appeal, by the City Council in June 1987. After approval of the development had been denied, Potomac Greens Associates filed a civil suit against the City in July 1987.

In February 1988, in an agreement with the City, Potomac Greens Associates withdrew their law suit and resubmitted a second mixed use, planned unit development plan for 1,990,000 sq.ft. of office space, 106,500 sq. ft. of retail space, a 300 room hotel and 448 residential units.

This submittal was under review, pending the publication of a final Environmental Impact Statement by the U.S. Park Service for the U.S. Congress, when Potomac Greens Associates refiled their lawsuit against the City for denying the previous site plan. In April 1991, the U.S. District Court upheld the Potomac Greens Associates site plan for 2,413,000 sq.ft. of development. The City has appealed the District Court decision. A decision from the Court of Appeals is expected in the summer of 1992.

Historically, the proposed development of the Potomac Greens site has met with great opposition because of the concerns with the impact of the development and the construction of an interchange to serve that development on the historic integrity and memorial character of the George Washington Memorial Parkway, on the recreational facilities in the immediate area and on traffic congestion along a major north/south commuter route through the City.

In 1987, in recognition of these concerns, the U.S. Congress barred the National Park Service from issuing any construction permit for a parkway interchange until an Environmental Impact Statement (EIS) had been prepared. A Draft EIS was completed in November 1989 and a final EIS was filed with Congress in May 1991. The EIS reviewed the environmental, aesthetic, historic, recreational and traffic impacts of four alternative development scenarios. The first alternative included the 1986 site plan and the 1988 planned unit development proposal. Alternatives 2-4 assumed, respectively, purchase of the interchange rights, purchase of a visual buffer to protect the parkway and purchase of the entire site. The effect of these purchase alternatives was to limit or eliminate private development on the property.

Save the George Washington Memorial Parkway Citizen Suit

In 1987, a citizen group opposed to the construction of the Potomac Greens interchange, "Save the George Washington Parkway" filed a lawsuit against the National Park Service. This suit challenged the 1970 federal decision that gave the developers rights to the parkway interchange in exchange of the 28 acre Dyke Marsh in Fairfax County. The U.S. District Court ruled against the Citizens group in the Fall of 1989, saying that too much time had elapsed since the exchange for the interchange was made. The group appealed the decision, and in October 1990, the Court of Appeals reversed the U.S. District Court decision and remanded the case to the Court for further proceedings. In early 1991, the RF&P Railroad, which had earlier intervened in the suit, requested the U.S. Supreme Court to reverse the Court of Appeals decision. The Supreme Court refused to review the case which is now pending before the District Court.

Park Service and RF&P Railroad Lawsuits

The National Park Service claims that it holds an easement over a portion of the Potomac Yard located north of Four Mile Run in Arlington County. This easement would prevent private development on this part of the Yard. Negotiations between the National Park Service and the RF&P Railroad for a possible exchange under which the Park Service would relinquish the easement over the Arlington portion of the tract in return for RF&P relinquishing access rights to the Parkway were unsuccessful. The RF&P railroad filed two suits against the Park Service over the easement. RF&P filed the first suit in the Federal District Court for the Eastern District Court of Virginia to secure quiet title to the easement. The court barred the suit because of the length of time that had elapsed since the easement was granted. The RF&P is appealing this decision to the 4th Circuit in Richmond and the appeal is scheduled to be heard in July. RF&P's second suit was filed in the U.S. Claims Court in D.C.; discovery will continue throughout the summer.

Potomac Yard - Alexandria 2020

Working as a joint venture called "Alexandria 2020," the RF&P Railroad Company and CSX Realty, Inc. have been preparing a plan for the past two years to redevelop the Potomac Yard tract, including the Arlington portion of the site.

The preliminary concept plan envisions 17 million square feet of mixed use development on the site, with about half of the development in residential uses. The concept includes the provision of almost 4 million square feet of office space for the Navy Consolidation project on the Arlington portion of the tract. In the Alexandria portion of the project, the concept plan provides for predominately residential development, with commercial development around a proposed new metro station near the center of the Alexandria portion of the tract, adjacent to the Potomac Greens tract.

Table 4

ALEXANDRIA 2020/POTOMAC GREENS PROPOSED DEVELOPMENT PROGRAM

	2020			Potomac Greens	
	Gross Sq.Ft. in Arlington	Gross Sq.Ft. in Alexandria	Gross Sq.Ft. Total	Gross Sq.Ft. Total	Gross Sq.Ft. Total
Office	4,140,900	3,529,100	7,670,000	2,343,300	10,013,300
Hotels	180,000	527,500	707,500		707,500
Residential	340,000	7,322,500	7,662,500	107,100	7,769,600
Supporting Retail	70,000	440,000	510,000		615,000
Other	35,000	415,000	450,000		450,000
Total	4,765,900	12,234,100	17,000,000	2,450,400	19,555,400

SOURCES: Alexandria 2020 Potomac Yard Fact Sheet, Concept Plan II, February 15, 1990.
Potomac Greens Site Plan Application, 1987.

TRANSPORTATION

The study area is located between two major north-south commuter routes that serve as key links between the residential areas of Fairfax County and Prince William County and the employment centers of Crystal City, the Pentagon and downtown Washington D.C. These two routes are the George Washington Memorial Parkway, which is located to the east and separates Daingerfield Island from the rest of the study area, and Jefferson Davis Highway (U.S. Route 1), which is located along the western edge of the Small Area Plan. Another major street, Slaters Lane, runs east-west along the southern edge of the study area connecting the Parkway and U.S. Route 1. The Monroe Avenue bridge serves as a major link in this system; the bridge was recently replaced by a new structure with greater capacity than the old bridge.

George Washington Memorial Parkway

The George Washington Memorial Parkway is a system of parkways and parklands located on both sides of the Potomac River which is maintained by the National Park Service. Although planned and constructed for a memorial function and to serve as a scenic gateway for visitors entering and leaving the National Capital Area, the Parkway has also become a major north-south commuter route. The Parkway is a four lane limited access divided arterial which is restricted from use by commercial vehicles. One-way frontage roads, East and West Abingdon Drives, run parallel to the Parkway from north of Slaters Lane to First Street. At First Street, the divided Parkway ends and becomes Washington Street, the major north-south street through Old Town Alexandria. Washington Street has six lanes, with the right lane reserved for high-occupancy-vehicles during peak periods and for parking in the off-peak periods. Within the study area, access to the Parkway is currently limited to Slaters Lane, Abingdon Drive, the Daingerfield Island entrance and Washington Street to the south.

Jefferson Davis Highway

The Jefferson Davis Highway (U.S. Route 1) is a four-lane divided arterial road from Reed Avenue near the northern City limits south to the Monroe Avenue bridge, which provides access over the RF&P railroad tracks. The bridge itself is a four lane facility, with separate left turn lanes providing access to Monroe Avenue and Slaters Lane.

South of the Monroe Avenue Bridge, U.S. Route 1 is carried northbound on Patrick Street and southbound on Henry Street. These streets are operated as a one-way pair with three lanes each. The Patrick and Henry Street pair have one lane reserved for high-occupancy-vehicles during peak periods. There are HOV lanes only on this short section of U.S. Route 1 from the southern Alexandria boundary to the Monroe Avenue bridge; there are no HOV lanes on Route 1 in Arlington, in Fairfax County or in the portion of Alexandria north of the Monroe Street bridge.

Major improvements to U.S. Route 1 in Arlington County have been undertaken in the past decade in conjunction with development of Crystal City; these improvements include widening U.S. Route 1 to three through lanes in each direction in Arlington and increasing access from the corridor into Crystal City through new streets, ramps and improved intersections. As part of the project, Jefferson Davis Highway in Alexandria was widened to six lanes north of Reed Avenue.

Monroe Avenue Bridge

The Monroe Avenue bridge connects U.S. Route 1 (Patrick and Henry Streets) to Jefferson Davis Highway over the Potomac Yard and also connects Slaters Lane to Monroe Avenue. In 1988, the old bridge was replaced by a new bridge located further south. The new bridge has the same number of through lanes as the bridge it replaced, two lanes in each direction; however, the new alignment of the bridge was altered significantly, changing the circulation patterns and improving traffic flow. The new alignment facilitates traffic movement from Slaters Lane on to U.S. Route 1, while discouraging the use of Powhatan Street. As part of the bridge project, the intersection of Bashford Lane and U.S. Route 1 was closed.

Slaters Lane

Slaters Lane is a four lane undivided roadway which is the northernmost link in Alexandria between U.S. Route 1 and the Parkway. The replacement of the Monroe Avenue bridge improved access from Slaters Lane to U.S. Route 1 through the addition of turning lanes and slip ramps. The intersection of Slaters Lane and the Parkway is signalized. Slaters Lane also provides access to the RF&P piggyback yards and other commercial and industrial sites located along its length.

Public Transportation Facilities

Although the Potomac Yard/Potomac Greens study area is not currently well served by transit, there is potential for excellent transit access. A new Metro station could be built in Alexandria between the Potomac Yard and Potomac Green tracts.

Metrorail

The Braddock Road Metro Station is located toward the southern end of the study area, along the RF&P rail lines near Braddock Road. The Washington Metropolitan Area Transit Authority Metrorail right-of-way runs along the eastern edge of the Potomac Yard site. The rail system was planned and built so that a new station could be constructed on this right-of-way, about midway between the Braddock Road and National Airport stations, near the Center of the Potomac Yard and Potomac Greens tracts.

Currently, WMATA runs service between D.C. and Huntington along this corridor. The yellow line serves the Braddock Road, King Street, Eisenhower Avenue and Huntington stations to the south, and the National Airport, Crystal City, Pentagon City, Pentagon and downtown D.C. stations to the north. Additional blue line service from Maryland and D.C. extends through the site from D.C. to the Van Dorn Metro station to the south. Any new metrorail station on the site would be served by both the Blue and Yellow lines.

Commuter Rail Service

Commuter rail service is scheduled to begin operation in early 1992 from Fredericksburg and Manassas to downtown D.C.. Since the rail lines will service commuter rail via Potomac Yard, there is potential for a commuter rail station to be located along with a future Potomac Yard Metrorail station. There is a planned commuter rail stop at the King Street Metro Station.

Bus Service

WMATA Metrobus service in the area is limited to two lines. The Metrobus 9 line originates at Fort Belvoir to the South and follows U.S. Route 1 through Fairfax County to Washington Street in Alexandria and then crosses over to Route 1 at the Monroe Avenue Bridge, passing along the western edge of the Potomac Yard track. This line terminates at the Pentagon. The second bus line, Metrobus 11, also originates at Fort Belvoir but follows the Mt. Vernon Parkway/Washington Street/George Washington Parkway alignment. This line stops at National Airport and provides service to downtown D.C. The City's DASH bus system does not currently serve the study area.

Transportation Policy

The City's overall transportation policy has been to protect the eastern portion of the City and its neighborhoods from through traffic emanating from Fairfax County, Maryland and from other jurisdictions south of the City. The City has a policy of maintaining constrictions at the portals to the City from the south and not widening arterial roadways serving north/south traffic.

While it has not encouraged the movement of additional cars through its eastern half, the City has encouraged increased movement of people through the city by its support of Metrorail, Metrobus, and DASH and of High Occupancy Vehicle lanes on Washington Street and on U.S. Route 1.

Nevertheless, traffic has steadily increased and there has been a persistent debate about what to do about the problem. The debate has included solutions ranging from doing nothing and hoping that increased congestion will discourage commuters, to constructing a billion dollar tunnel on U.S. Route 1 through the City, to hoping that traffic will quietly and invisibly flow through the City with minimum disruption to Alexandria's residents.

U.S. Route 1 and Other Improvements

A very large part of the debate relates to U.S. Route 1. In 1977, Council established its position on the Route 1 corridor in a Resolution (#554) which stated Council's opposition to:

1. The replacement of the Monroe Avenue Bridge with a 6 lane bridge.
2. The widening of Jefferson Davis Highway to six lanes from a point 100 ft. north of Reed Avenue southward.
3. The Potomac Expressway (a new road along Four Mile Run).
4. The Northeast Expressway (a road from Washington Street on Powhatan Street and through the Potomac Yard Tract to the north).
5. Any Commonwealth Avenue-Eads Street connection
6. Any widening of Reed Avenue.

These policies have not been changed. In accordance with these policies, the new Monroe Avenue replacement bridge was restricted to four lanes. The bridge was designed to serve U.S. Route 1 traffic and to improve the connection between the corridor and the George Washington Memorial Parkway using Slaters Lane. However, the redesign removed the direct connection between the bridge and Powhatan Street and therefore afforded the Northeast neighborhood some protection from through traffic.

Similarly, the City has resisted pressure to improve Jefferson Davis Highway north of the Monroe Avenue Bridge to Four Mile Run, although the Virginia Department of Transportation has recently completed a major widening of Jefferson Davis Highway within Arlington County to six lanes from Crystal City to just north of Reed Avenue in Alexandria.

U.S. Route 1 Relocation

Since the mid-1970's the City has considered eliminating the one way pairing of Patrick and Henry streets to serve as U.S. Route 1 through the older neighborhoods of the City. Most recently, in 1987, the City asked the Washington Metropolitan Council of Governments (WMCOG) to conduct a preliminary feasibility study on the relocation of the Route 1 corridor.

The WMCOG study reviewed four alternative alignments of U.S. Route 1, including a tunnel under Patrick and Henry Streets, a tunnel under Fayette Street, a four lane alignment along the RF&P railroad tracks and connecting to Huntington Avenue south of the Beltway, and a four lane alignment from Huntington Avenue into a tunnel in the Potomac paralleling the river bank. The study found that all of the new facilities would improve traffic conditions only temporarily; a new facility would attract new traffic and by the year 2010 Patrick and Henry Streets and any new facility would be severely congested. The costs of all of the alternatives were estimated to be prohibitively expensive.

WMCOG also analyzed several HOV alternatives for U.S. Route 1, including the HOV lanes on the new alignment alternatives, and the construction of an HOV-only facility. WMCOG found that the HOV alternatives kept congestion at or below 1988 levels while accommodating future growth in the corridor and recommended further study of the HOV possibilities.

George Washington Memorial Parkway Interchange

Council has stated their opposition to construction of an interchange on the George Washington Memorial Parkway at the Potomac Greens site, because of the transportation impacts on surrounding areas and because of the visual impact along the Parkway, which is within the City's historic district. A citizen civil suit challenging the legality of the exchange which resulted in the railroad's right to build the interchange is also pending and could also determine whether or not the interchange is ultimately built.

Existing Traffic Conditions

Existing Intersection Level of Service By Approach

The table below shows existing intersection levels of service. Key intersections on the Parkway near the study area are currently operating at level of service F during both the morning and evening peak hours. Conditions are better on the Washington Street portion of the Parkway system. The other major street serving through traffic, Route 1, is operating much better at key intersections, generally in the B-C range.

Table 5
1990 Intersection Level of Service

Intersection	PEAK HOUR	NB	SB	EB	WB	Overall
GW Parkway/E. Abingdon Dr.	AM	F	-	-	F	F
	PM				F	F
GW Parkway/Slaters Ln.	AM	F	B	E	B	F
	PM	B	F	D	C	F
Washington St./First St.	AM	B	B	-	C	B
	PM	A	F	-	C	F
Washington St./Montgomery St.	AM	C	B	D	C	C
Powhatan St.	PM	B	C	D	C	C
Jeff Davis Hwy./E. Glebe Rd.	AM	C	B	D	-	C
	PM	B	F	C	-	F
Monroe St./Jeff Davis Hwy.	AM	C	B	D	-	C
	PM	F	F	C	-	F
Monroe St./Henry St.	AM	F	D	-	C	F
	PM	C	C	-	D	C
Patrick St./Montgomery St.	AM	D	-	-	C	D
	PM	B	-	-	C	B
Madison St./Patrick St.	AM	E	-	C	-	E
	PM	B	-	C	-	B
Henry St./Montgomery St.	AM	-	B	-	C	B
	PM	-	D	-	D	D

Source: Turning Movement Counts - 1990 Frederic R. Harris Inc.;
Level of Service Calculations - Dept. of T&ES.

Existing Traffic Volumes

The table below shows existing traffic volumes on the key streets near the study area. The Parkway carries about 2,300 northbound vehicles during the a.m. peak hour and 2,000 in the p.m. peak hour. Along the western edge of the study area, Route 1 carries about 2,000 vehicles northbound in the morning and southbound in the evening.

Table 6

Traffic Volumes on Key Links

		AM	PM
GWM Parkway NB at Slaters Lane		2,321	1370
GWM Parkway SB at Slaters Lane		918	2000
Slaters Lane WB at GWM Parkway		61	136
Slaters Lane WB at Powhatan Street		58	230
Slaters Lane EB at GWM Parkway		842	376
Slaters Lane EB at Powhatan Street		851	399
Powhatan Street NB at Slaters Lane		239	276
U.S. Route 1 NB at Monroe Avenue		2170	1237
U.S. Route 1 NB at E. Custis Avenue	1983	984	
U.S. Route 1 NB at Reed Avenue		1959	864
U.S. Route 1 NB at E. Glebe Road		1962	1020
U.S. Route 1 SB at Monroe Avenue		1282	1874
U.S. Route 1 SB at E. Custis Avenue	906	1710	
U.S. Route 1 SB at Reed Avenue		756	1934
U.S. Route 1 SB at E. Glebe Road		756	2034
Monroe Avenue EB at U.S. Route 1		149	367
E. Custis Avenue EB at U.S. Route		183	42
Reed Avenue EB at U.S. Route 1		244	80
E. Glebe Road EB at U.S. Route 1		313	164

Source: 1990, Frederic R. Harris Inc.

Frederic R. Harris Traffic Analysis

Information about future traffic conditions in the study area was developed using the City's computerized traffic model. The City commissioned the transportation consulting firm of Frederic R. Harris to do a transportation study of the area using outputs from the City's traffic model. The Harris study analyzed the transportation impacts of three development levels and different roadway and transit improvements. The assumptions for each of the scenarios are summarized in the table below:

Table 7

Land Use and Network Assumptions
Frederic R. Harris Traffic Analysis

Scenario	Land Use		Road Network
A.	No Growth in City; Full Regional Growth	No Development on Yard/Greens or in rest of the City beyond 1990 levels	2010 base network
B.	No PY/PG Growth; Full City Growth; Full Regional Growth	14 Million sq.ft. office development in in the City, with none on Potomac Yard or Potomac Greens	2010 base network
C.	Low PY/PG Growth; Full City Growth; Full Regional Growth (Figure 3)	1.1 Million sq.ft. of office development in City on PY/PG (plus 2.0 sq.ft. in Arlington), 3,260 residential units in the City on PY/PG, plus 12.9 million sq.ft. of office development in the rest of the City	2010 base network plus Potomac Yard street improvements; No Metro station
D.	Medium PY/PG Growth; Full City Growth; Full Regional Growth (Figures 2&4)	3.8 Million sq.ft. of office development in the City on PY/PG (plus 2.8 million sq.ft. in Arlington), 6,750 residential units in the City on PY/PG plus 10.2 million sq.ft. of office development in the rest of the City.	2010 base network plus Potomac Yard street improvements plus Parkway interchange; With Metro station
E.	High PY/PG Growth; Full City Growth; Full Regional Growth (Figure 5)	5.6 million sq.ft. of office development in the City on PY/PG (Plus 4.1 million sq.ft. in Arlington), 6,750 residential units in the City on PY/PG plus 8.4 million sq.ft. of office development in development in the rest of the City	2010 base network plus Potomac Yard street improvements plus Parkway interchange; With Metro station

PY/PG: Potomac Yard/Potomac Greens

2010 Base Network includes these major roadway improvements:

City:
- a ramp connecting the Telegraph Rd. exit ramp from EB I-95 with Eisenhower Avenue
- a collector/distributor road along WB I-95 between the Rte. 1 and Telegraph Rd. interchanges
- an interchange on I-95 at Clermont Avenue

Region:
- the Eastern Bypass
- the widening of the Woodrow Wilson Bridge from 6 to 10 lanes
- the widening of the Capital Beltway in Virginia from 8 to 12 lanes
- the extension of Crystal Drive North to I-395
- all other roadway improvements in the MWCOG 2010 network and the Northern Virginia 2010 regional plan

Potomac Yard Improvements are:

- a four lane, two-way spine road from the Monroe Avenue Bridge to Crystal City Drive
- a grid of local streets within the Potomac Yard connecting to Route 1 and the "spine road"
- a realigned Monroe Avenue Bridge

The Harris findings are detailed in a separate report, and the major findings of the study are summarized below.

Future Traffic Conditions with No Additional Development in the City (Scenario A)

The most important conclusion of the Harris study is that regional growth will have a significant impact on peak hour traffic conditions in Alexandria. The Harris analysis shows that peak hour traffic conditions in the year 2010 within the City will be much worse than they are today because of regional growth, even if the City allows no new development anywhere in the City. Figure 1 shows congested links under this scenario. The report states:

> Increases in projected regional growth will have a significant impact upon travel within the City of Alexandria, regardless of whether or not any new development is permitted with the boundaries of the City. Traffic volumes generated elsewhere in the region will continue to result in increased levels of traffic congestion on Alexandria's streets. In particular, increases in peak period traffic volumes on U.S. Route 1, the GWM Parkway, and the collector streets leading to these major commuter routes will account for much of this congestion. As peak hour and peak period traffic volumes continue to grow, alternative arterial routes, collector streets, and even local neighborhood streets will be affected as traffic seeks ways to avoid congested intersections and street segments (p. 41).

It is important to keep this finding in mind. The traffic impacts of the Potomac Yard/Greens site cannot only be measured relative to today's traffic conditions, because even if no additional development in the City occurs, traffic conditions will not stay as they are today; they will become considerably worse. The Harris screenline analysis shows that, overall, northbound and eastbound peak hour traffic within the Potomac West area can be expected to increase by almost 100 percent by 2010 and that northbound traffic within the Old Town area can be expected to increase by about 40-45%, compared to current levels. The predicted traffic impacts of the Potomac Yard/Potomac Greens development must be compared to the traffic conditions that are predicted for the year 2010 if no development occurs on the site.

Future Traffic Conditions with Potomac Yard/Potomac Greens Development

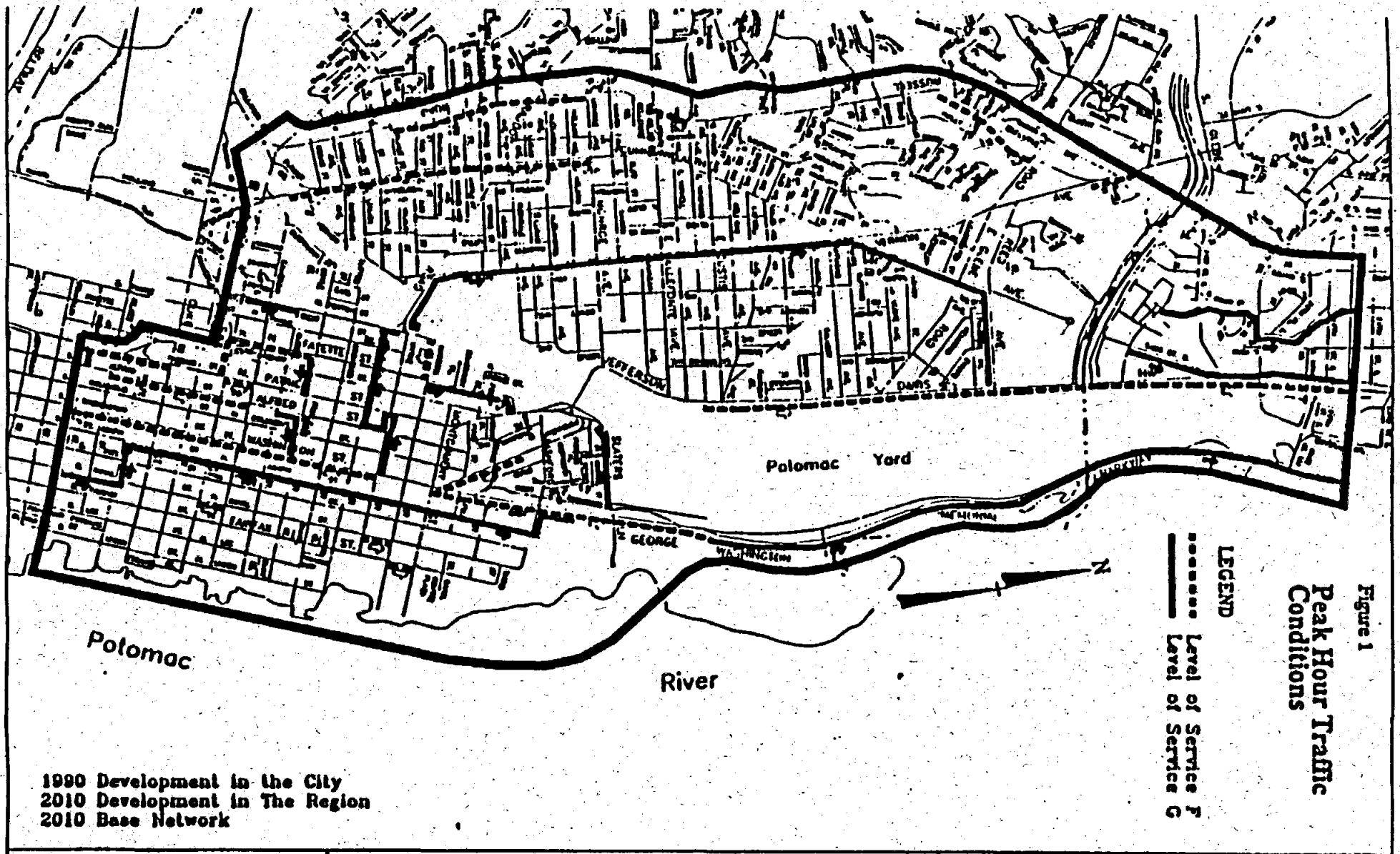
The number of trips generated during the a.m. peak hour under each of the Potomac Yard/Potomac Greens development scenarios is shown as follows:

Table 8

Estimated Peak Hour Vehicle Trips
Potomac Yard/Green Development
(Alexandria and Arlington Portions)

Scenario C	4,280
Scenario D	5,896
Scenario E	7,938

The actual volume of traffic that would be generated by the development could vary substantially depending on a number of factors, most notably the percentage of transit ridership and number of persons per auto that are achieved in the development and in surrounding neighborhoods. In the Harris report, the assumptions include moderate transit usage (15%) and carpooling rates (1.3 auto occupancy) for Scenario C, which would not have a Metrorail station, and higher target transit usage (30%) and



HARRIS
Frederic R. Harris, Inc.

Alexandria Transportation Analysis
Potomac Yard Transportation Study

Figure 3-1
Scenario A – A.M. Peak Hour Level of Service

carpooling rates (1.4 auto occupancy) in Scenarios D and E, which would include a Metrorail station. These mode splits and auto occupancies also assume a stringent TMP program for the development; if less stringent TMP measures were enacted, more vehicles would be generated.

Figure 2 shows the estimated peak hour directional distribution of the traffic that would be destined for the Potomac Yard tract as forecasted by the City's traffic model for Scenario D. Slightly over one-fourth (26.2%) of the traffic to the project would come from the south on U.S. Route 1 and the George Washington Memorial Parkway, with most of this traffic on U.S. Route 1. Over half (52.1%) of the traffic would approach the project from the west, including traffic that originates from the south but comes up I-395 and approaches the project from the west. Almost half of the traffic approaching from the west is likely to be on S. Glebe Road in Arlington. Without preventative action by the City, the other traffic from the west would filter through on other streets such as E. Glebe Road and Monroe Avenue onto U.S. Route 1 and into the project. About 21.6% of the total traffic is estimated to approach the project from the north, including a very low percent (2.4%) coming southbound on the Parkway to Slaters Lane. Most of the traffic from the north is likely to approach the project from Jefferson Davis Highway southbound through Arlington.

Scenario C (Tests Council Members Plan)

Scenario C tests the impact of 1.1 million square feet of office space and 3,260 residential units on the Alexandria portion of the Yard (plus an additional 2.0 million square feet of office space on the Arlington portion of the site). This scenario assumes no Metrorail station. Figure 3 shows congested road segments (level of service F or worse) under development Scenario C. Substantial areas of congestion exist throughout the area, including the downtown area and Potomac West, U.S. Route 1 and the George Washington Memorial Parkway. However, there is actually less congestion City-wide than under Scenario A, where no development occurs on the Yard or in the rest of the City.

There are several processes occurring which explain this result:

1. Construction of the Potomac Yard Network provides substantial new roadway capacity in the area of the project, alleviating congestion on other roads.

2. The regional effect of a development the size of the Yard is substantial and existing trip patterns will eventually shift. For example, because the Yard is so close to D.C., many of the projected residents will have jobs in close-in D.C., Alexandria and Arlington. These shorter trips will replace longer trips from Fairfax, Prince William, etc., through Alexandria to Arlington and D.C, reducing traffic through Alexandria.

3. Some through trips on the City's streets will be displaced by local traffic destined for the Yard.

Scenario D

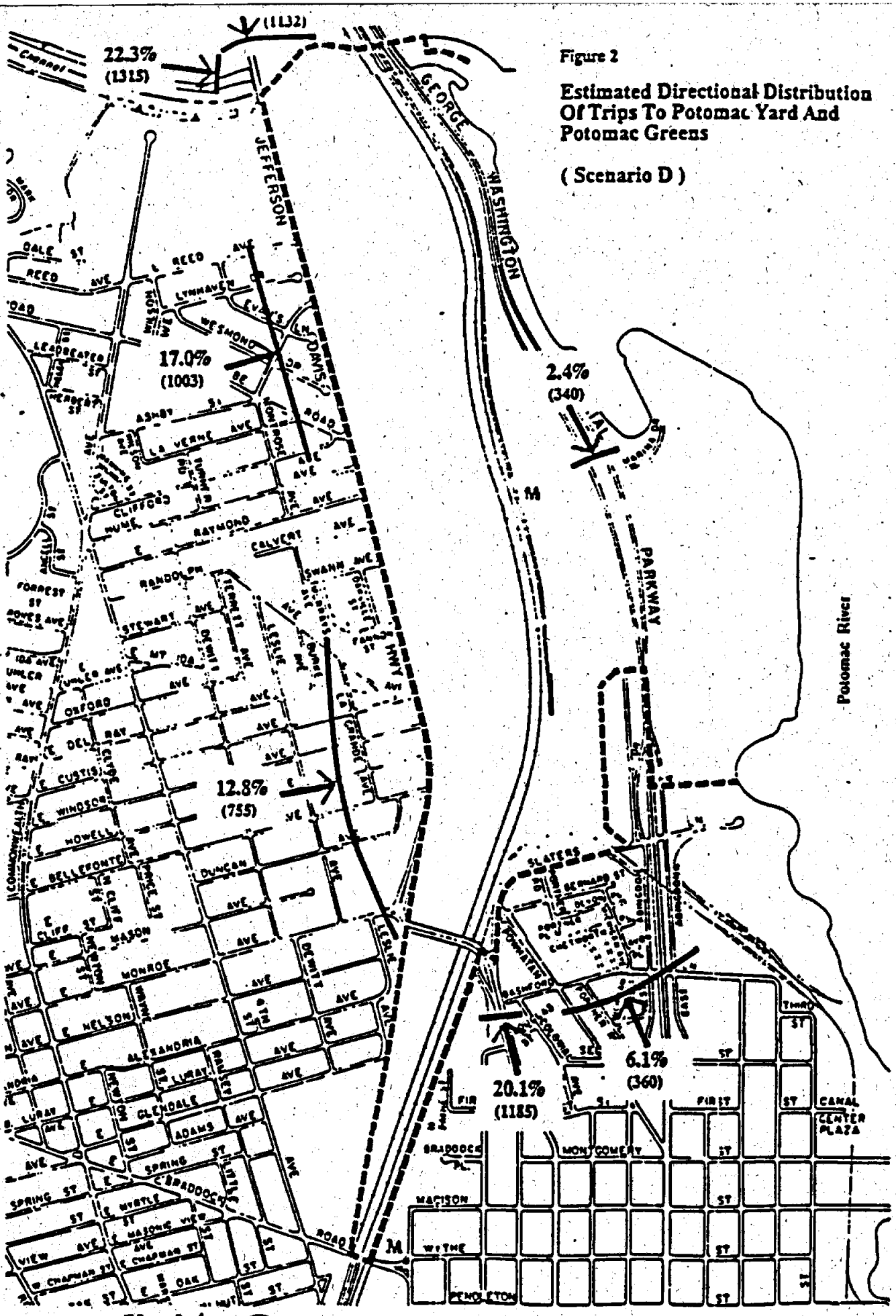
Scenario D tests the affect of 3.8 million square feet of office space and 6,450 residential units on the Alexandria portion of Potomac Yard and Potomac Greens (plus an additional 2.8 million square feet of office development and 300 residential units on Potomac Yard in Arlington). This scenario also includes a Metrorail station.

Figure 4 shows the impact of this development level in the study area. While Scenario C introduces an additional 3.5 million square feet of office development and several thousand residential units, the addition of the Metrorail station increases the percentage of non-auto trips, both within the development and within neighborhoods in the Potomac West area. Overall, there is very little difference in peak hour congestion levels between this scenario with moderate development, and the lower level of development shown in Scenario C.

Figure 2

Estimated Directional Distribution Of Trips To Potomac Yard And Potomac Greens

(Scenario D)



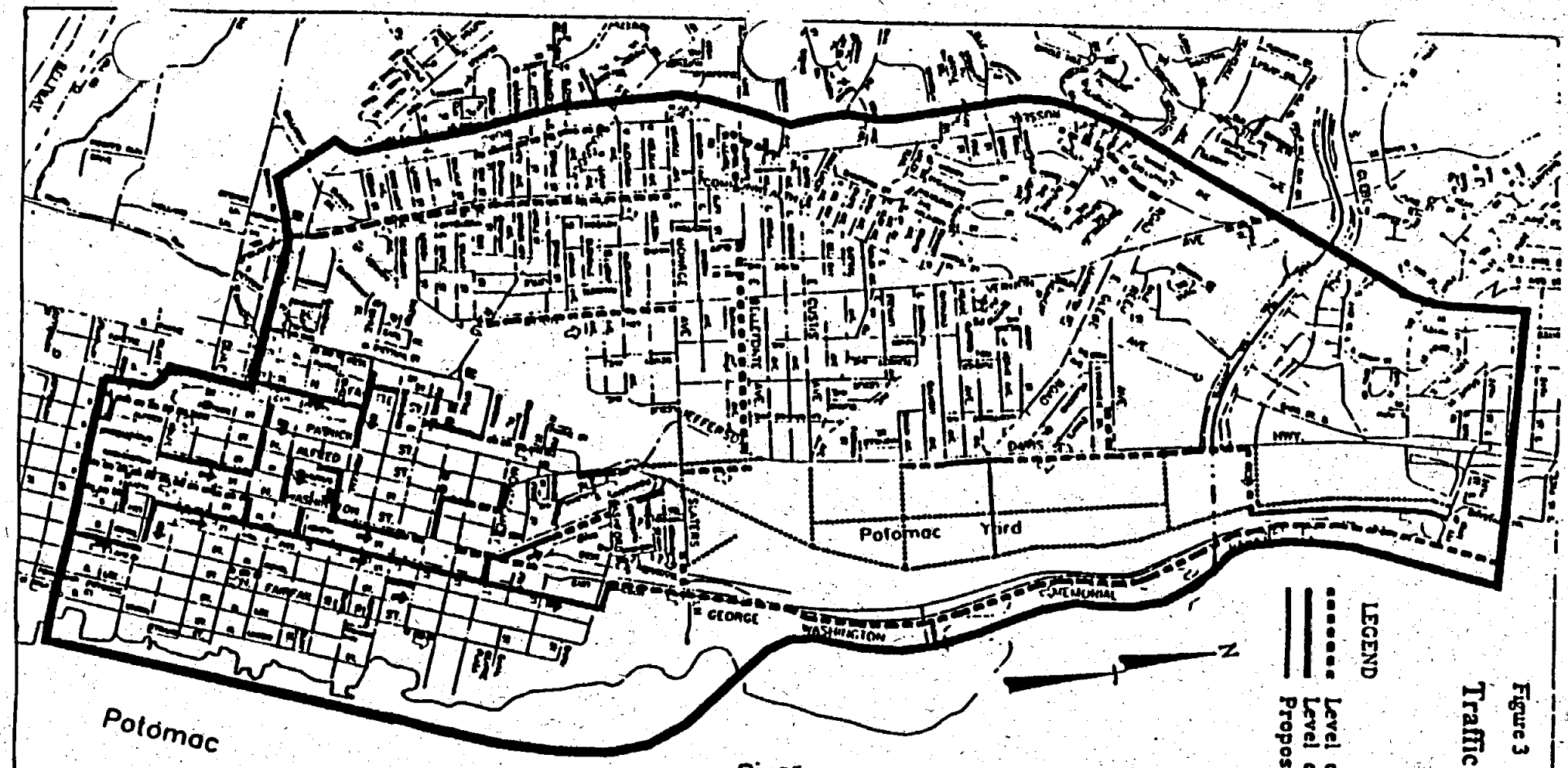


Figure 3
Traffic Scenario C

2010 Market Level Development in the City
2010 Development in the Region
3.1 Million Square Feet of Office Development in Potomac Yards/Potomac Greens
3256 Residential Units in Potomac Yards/Potomac Greens
2010 Potomac Yard Network

HARRIS
Frederic R. Harris, Inc.

Alexandria Transportation Analysis
Potomac Yard Transportation Study

Figure 4-2
Scenario C - A.M. Peak Hour Level of Service

LAND USE PLAN CONCEPT

Relationship to Alexandria 2020 and Potomac Greens Plans

In preparing a land use concept for this area, staff was able to draw upon useful analysis and plans prepared for Potomac Yard. While staff differs with Alexandria 2020 with respect to the overall densities proposed, there are many aspects of the Alexandria 2020 plan which are well thought out and staff has incorporated those elements into this area concept plan.

Area of Development

According to the analysis by Alexandria 2020, only a portion of the total 264 acres in Potomac Yard would consist of developable area; the remainder would be for other purposes, such as streets and rights of way, open space and railroad use. On Potomac Greens, a much smaller percentage of the area will be required for infrastructure such as roads, but a large portion of the site will be required to be reserved as a wetlands preservation area. Table 9 illustrates the breakdown of total acreage for both sites.

Table 9

SITE AREA SUMMARY

Potomac Yard*	Acres
Gross Site Area	264
Railroad Corridor	31
Streets and Rights of Way, Including Metro	71
Four Mile Run	4
NET SITE AREA	158
Parks and Open Space	45
AREA AVAILABLE FOR DEVELOPMENT	113

* Based on information provided by Alexandria 2020

Potomac Greens	
Site Area	39
Wetlands Preservation Area (estimated)	20
Streets and Rights of Way (estimated)	4
NET SITE AREA/AREA AVAILABLE FOR DEVELOPMENT	15

General Land Use Concept

This land use concept plan calls for a new Metro station in the center of the site, with higher density mixed use development, consisting of office, retail, hotel and residential uses, to be concentrated near the station. The plan proposes a mixed use development along the Four Mile Run, consisting of predominantly residential and retail uses, to take advantage of the opportunities of building near the water, and a public facility and commercial center in the vicinity of Monroe Street, serving the project and the nearby residential area. The plan recommends that the remainder of the developable portions of the site be developed with residences or devoted to recreational facilities (see Map 11).

The plan proposes a variety of residential neighborhoods and a number of public open spaces and recreational opportunities serving both the project area and the nearby residential neighborhoods.

Transportation System

A key element of the land use concept plan is a new Metro station on the existing Metro rail line at a straight section of track roughly east of Raymond Avenue. A commuter rail facility should be built near the new Metro station.

The major organizing structure of the plan for the area west of the Metro tracks is a grid system of streets with a spine road through the center of the site connecting U.S. Route 1 south of Monroe Street to Crystal Drive in Arlington. The spine road would provide new access to the major part of the project from the south. The grid pattern of streets would make it likely that the development within Potomac Yard would be urban in character, oriented toward streets, a pattern found in most of the surrounding areas of the City.

The area east of the Metro tracks is too long and narrow to support a grid network of streets. Instead, this plan calls for a single road running north/south through the site connecting with Slaters Lane. If access to the Parkway is gained by the developer of Potomac Greens the road network will need to be designed so as to limit the possibility of significant through movements between the Parkway and Slaters Lane.

Open Space System

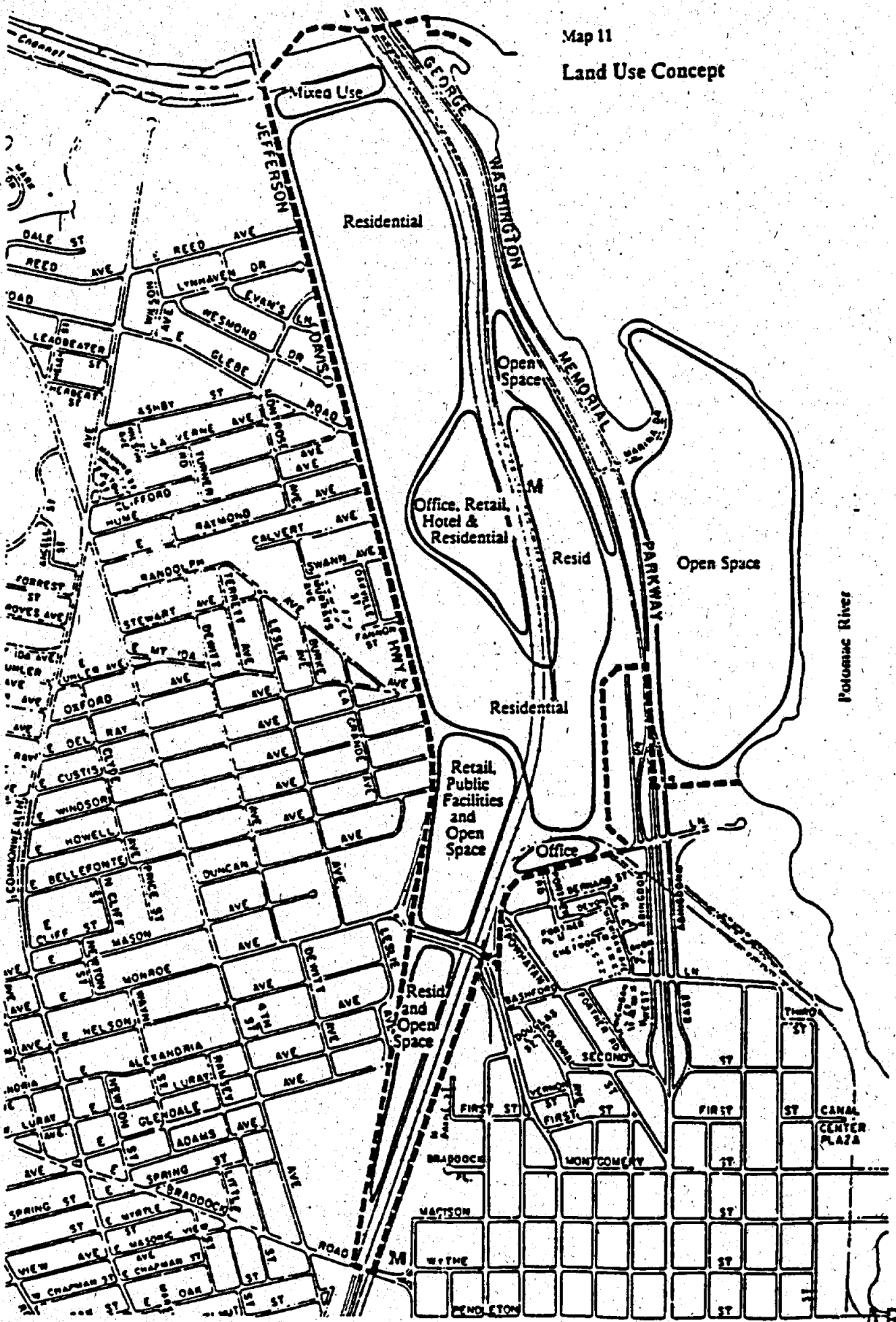
The second major organizing feature of the plan is a system of open spaces, recreational facilities and pedestrian/bicycle trails which extend throughout the site and connect to existing open spaces and trails in the immediate vicinity.

The plan calls for a major open space in the southern part of the yard in the vicinity of Monroe Avenue and connecting to Simpson Stadium; and an open space on both sides of Four Mile Run with connections to Four Mile Run Park, an existing open area at the north of the Potomac Greens site. In total, new open space areas should comprise at least 30%, (approximately 48 acres), of the 158 acres of developable area in Potomac Yard.

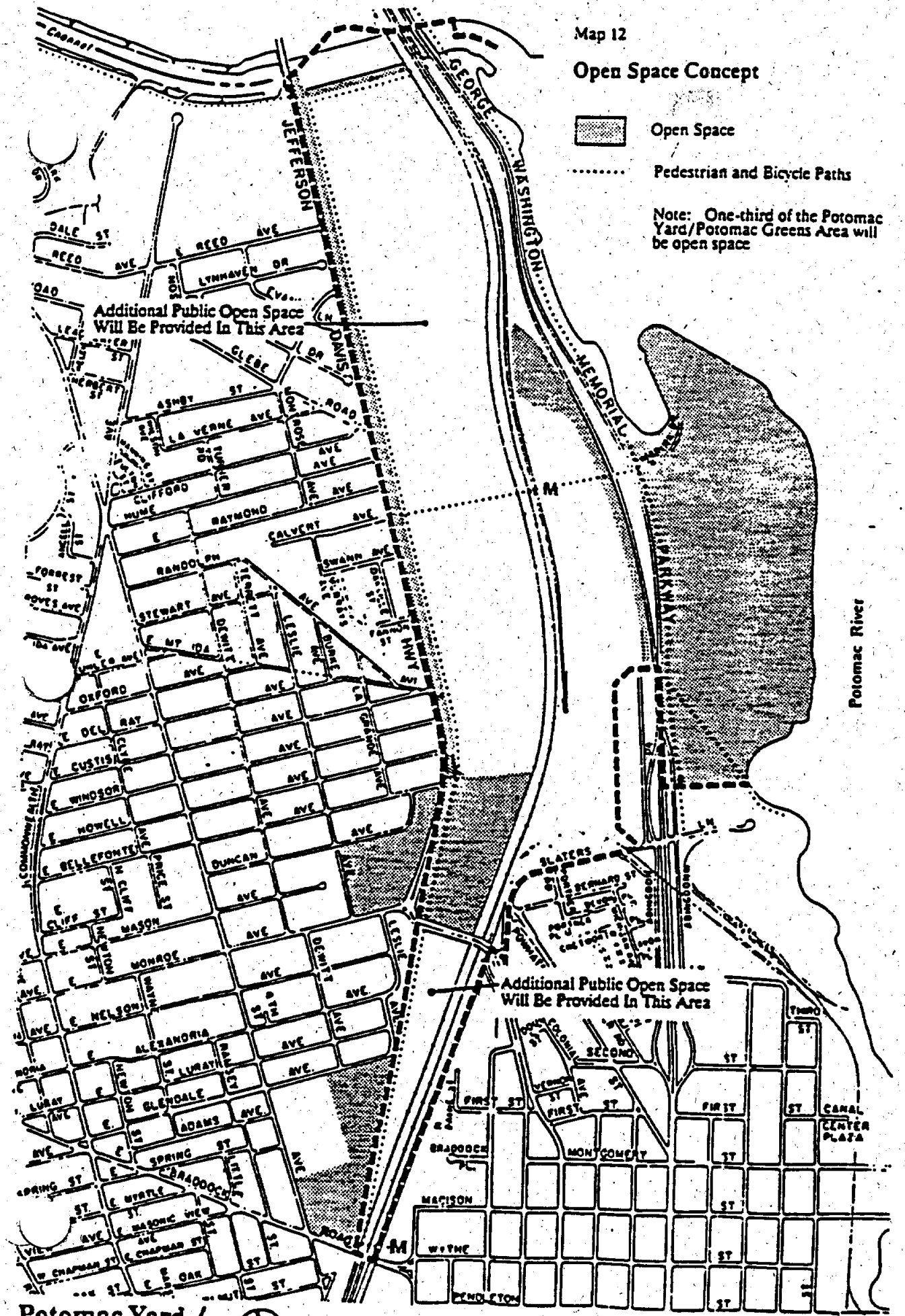
The plan proposes a series of bikeways through the site, offering north/south routes connecting Alexandria with Arlington, and several east/west routes connecting Potomac West with the site and the parks along the Potomac River. All waterfront areas, including Four Mile Run, should be connected by bike paths linking up with the existing bike trail system. In this way, the new open space and recreational areas will enhance the accessibility of existing areas, and make those areas more available to the city as a whole (see Map 12).

Map 11

Land Use Concept



Potomac Yard / Potomac Greens


Map 12
Open Space Concept
Open Space
Pedestrian and Bicycle Paths
Note: One-third of the Potomac Yard/Potomac Greens Area will be open space
Additional Public Open Space Will Be Provided In This Area
Additional Public Open Space Will Be Provided In This Area
GEORGE WASHINGTON MEMORIAL PARKWAY
Potomac River
JEFFERSON DAVIS HWY
Potomac Yard / Potomac Greens

Description of the Neighborhoods

The land use concept plan can be more specifically described and explained by subdividing the Potomac sites into 8 areas as shown on Map 13.

1. Metro Station Area

This area is proposed to be the high density central core of the Potomac Yard site and includes the proposed Metro Station. A mix of higher density commercial office, retail, hotel and residential uses is proposed to be concentrated near the transit facility within 1000 feet of the Metro station.

2. Four Mile Run Area

The Four Mile Run area, which includes the northern tier of the Potomac Yard in Alexandria, should serve as a gateway to the City and distinguish Alexandria from Crystal City development to the North. If possible, development of this area should be coordinated on both sides of Four Mile Run, regardless of the jurisdictional boundary, to take advantage of scenic and recreational opportunities offered by this waterway. The area near the Run should be planned as an natural extension of Four Mile Run Park in Alexandria and as part of the entire Four Mile Run park system in Arlington County.

This area is an appropriate location for a mix of uses, predominantly residential and retail. Retail stores and restaurants should be encouraged to support pedestrian activity next to what should be developed as a major water attraction and open space area.

3. Monroe Avenue Area

The Monroe Avenue area lies between Monroe Avenue, Slater's Lane and Route 1 and is centrally located relative to surrounding residential neighborhoods and recreational facilities. Because of its accessibility, this area is a suitable location for a community retail center, lower density professional offices, major active recreational facilities and other public facilities as may be needed.

4. Northern Yard

This area is proposed to be predominantly residential with a mix of housing types.

5. Southern Yard Area

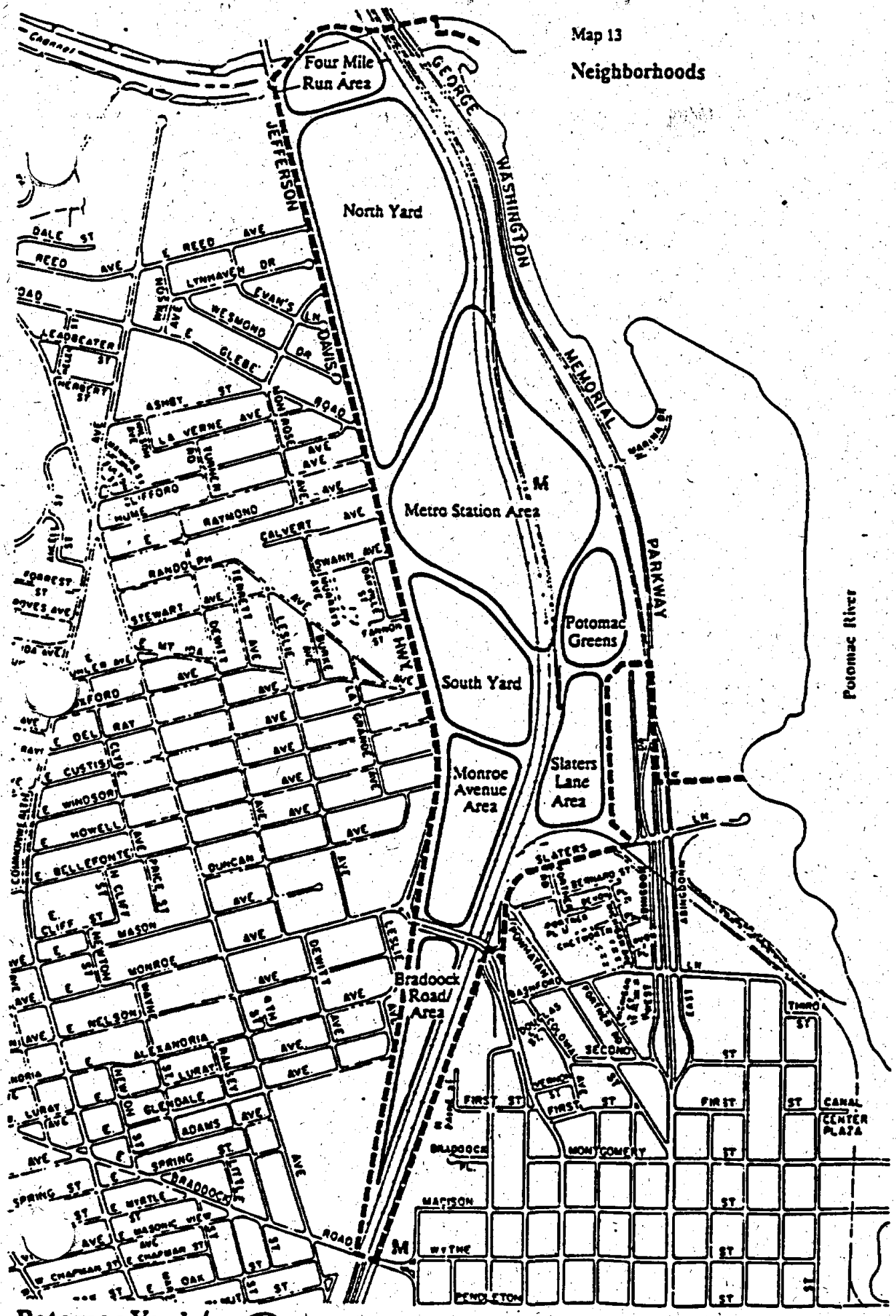
This area lies between the Metro station area and the open space and community facilities to the south, and is proposed to be residential with a variety of housing types, predominantly townhouse.

6. Braddock Road

The Braddock Road area south of the Monroe Avenue Bridge is wedged between the George Washington Junior High and industrial uses to the west and the Metrorail line to the east and is the most isolated area within the Potomac Yard site. With the consolidation of the rail lines along the Metro line, the remaining land could be developed residentially and integrated with the existing Del Ray neighborhood. Over time, it may be desirable to encourage the residential redevelopment of the small amount of industrial and commercial uses located along Leslie Avenue. The City may wish to consider acquiring the southern portion of this area as an addition to the George Washington School recreational facilities.

Map 13

Neighborhoods



Potomac Yard / Potomac Greens

7. Slater's Lane Area

This subarea includes what is now the piggyback yard and is located between the Metrorail line, the Potowmack Crossing Apartments located on W. Abington Drive, and Potomac Greens. Residential development of the Slater's Lane area would extend and strengthen the residential character of the Northeast neighborhood and provide a focus of residential development oriented along the Parkway. Moderately scaled residential, predominantly townhouse, would be appropriate to relate to existing and proposed adjacent residential development.

8. Potomac Greens Area

Potomac Greens, located adjacent to the Parkway, enjoys excellent views of the river and good access to the recreational facilities on Daingerfield Island. While this site is most appropriate for predominantly residential development and this plan recommends only residential development, the ongoing litigation affecting this site may ultimately determine the character of its development. If the site plan is upheld by the courts, a high density, all commercial development will be able to proceed on the site. If commercial development is approved for this site, this plan will encourage a shift of commercial densities from Potomac Greens to Potomac Yard, with a compensating shift of residential to Potomac Greens. Development of this site will need to be sensitively designed to avoid any negative impacts on the memorial character of the Parkway.

Coordinated Development District

The most comprehensive approach towards developing a large scale, mixed use project is to designate all the property in the Potomac Area excluding federally owned land and the small amount of existing commercially developed land north of Slater's Lane, as one Coordinated Development District (CDD). The CDD would include both Potomac Yard and Potomac Greens. It is logical to place all of this land in one CDD because all of the land is owned by the RF&P railroad and constitutes one contiguous redevelopment area.

The CDD designation will help ensure that redevelopment of this large site will be based on overall design principles that will provide cohesion and continuity to site development and will be compatible with adjacent areas of the City.

DEVELOPMENT PARAMETERS

The Potomac Yard/Potomac Greens CDD and the land use concept plan need to be based on a set of principles to guide development of the site. The most important of these principles, density and height, establish the scale and level of development desired for Potomac Yard and Potomac Greens and are discussed at length below. Other principles which address issues such as design guidelines are found in the Recommendations section.

Density

The level of density in Potomac Yard and Potomac Greens will be a key determinant of the character of the development in the Potomac Yard Potomac Greens sites. In establishing the appropriate level of density, two factors must be considered:

1. Transportation: The impact of different levels of development on the City's transportation network and areas of the city near Potomac Yard and Potomac Greens

2. Character of Development: A judgment about the type of development appropriate for the new Potomac community

Each of these factors are discussed below.

Factors affecting Density

1. Transportation

The traffic impact of alternative levels of development has been addressed earlier in this plan and in a study by Frederic R. Harris, transportation consultant. The traffic study suggests that the development proposed by this plan will have limited impact on peak hour traffic, but may result in exacerbating the longer peak period. The road system built in the Potomac area may alleviate some of the congestion from development predicted to occur.

2. Character of Development

The character of Potomac Yard and Potomac Greens will be determined in large part by the density and location of commercial and residential development.

This plan is based on the assumption that a Metro station is necessary in order to attain a high quality mixed use development. The location of a proposed Metro station is substantially determined by configuration of the Metro tracks. The station needs to be located on a straight stretch of track; since there is only one such stretch, the station would be located approximately east of Raymond Avenue.

Office Density

The potential construction of a Metro Station in the Potomac Area is the key determinant of the location and density of office development for the project. In other Metro station locations, the City has encouraged a concentration of higher density mixed use development, including high density office uses within convenient walking distance to the station (about a 1,000 foot radius). Recent research has shown that the number of people taking Metro rail in the Washington Metropolitan area is a function of the distance from the station to the destination. Ridership begins to fall off markedly after 2000 feet. Therefore, this plan calls for most of the 2,750,000 square feet of office development in the area to be located near the new Metro station.

To place this amount of office development into perspective, a comparison to the King Street Metro Station area is instructive. The King Street Metro Station area consists of approximately 28 acres, excluding public rights of way. This area is currently planned for approximately 2.6 million square feet of office space, of which 1.7 million has already been built, and an additional 0.9 million planned, not including the Carlyle project. Much of the office development around the King Street Metro station has been or will be development at densities of between 2.5 and 3.0 F.A.R. (see Figure 6).

It would be preferable to concentrate the commercial development west of the tracks, on the Potomac Yard site where street access is superior. This would eliminate the need for an intersection or an interchange with the Parkway, since a substantially residential development could be served by Slaters Lane to the south.

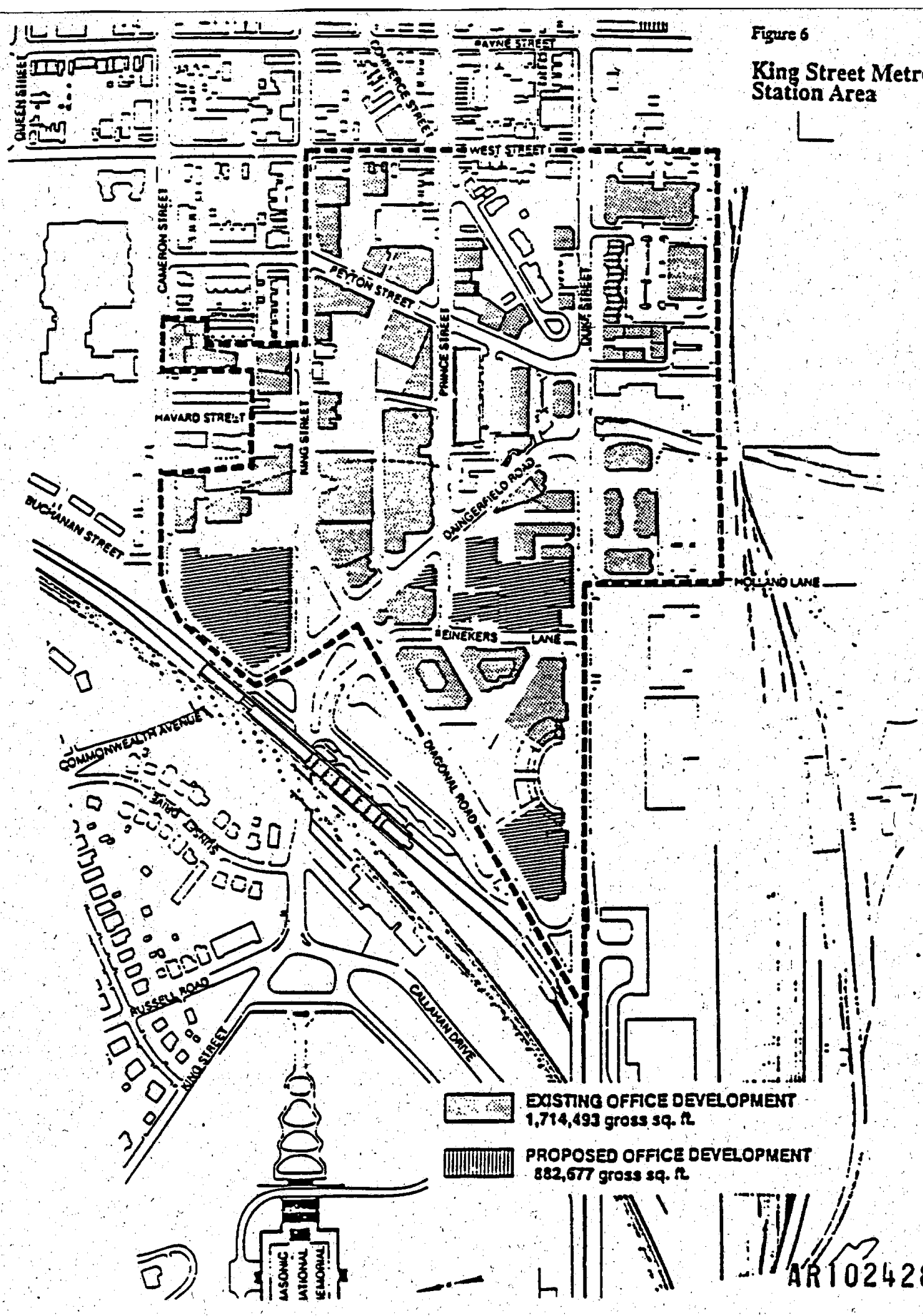
Residential Density

This plan allows for the development of up to 3,500 residential units, to include a variety of densities. At least two-thirds of the residential development should be townhouses.

In allocating the required amount of residential density in the land use concept plan, staff has considered which areas are appropriate for higher residential densities and which areas require lower densities more compatible with adjacent existing areas. Map 14 shows how these housing types would be arrayed by neighborhood in the Potomac Yard/Potomac Greens Small Area Plan.

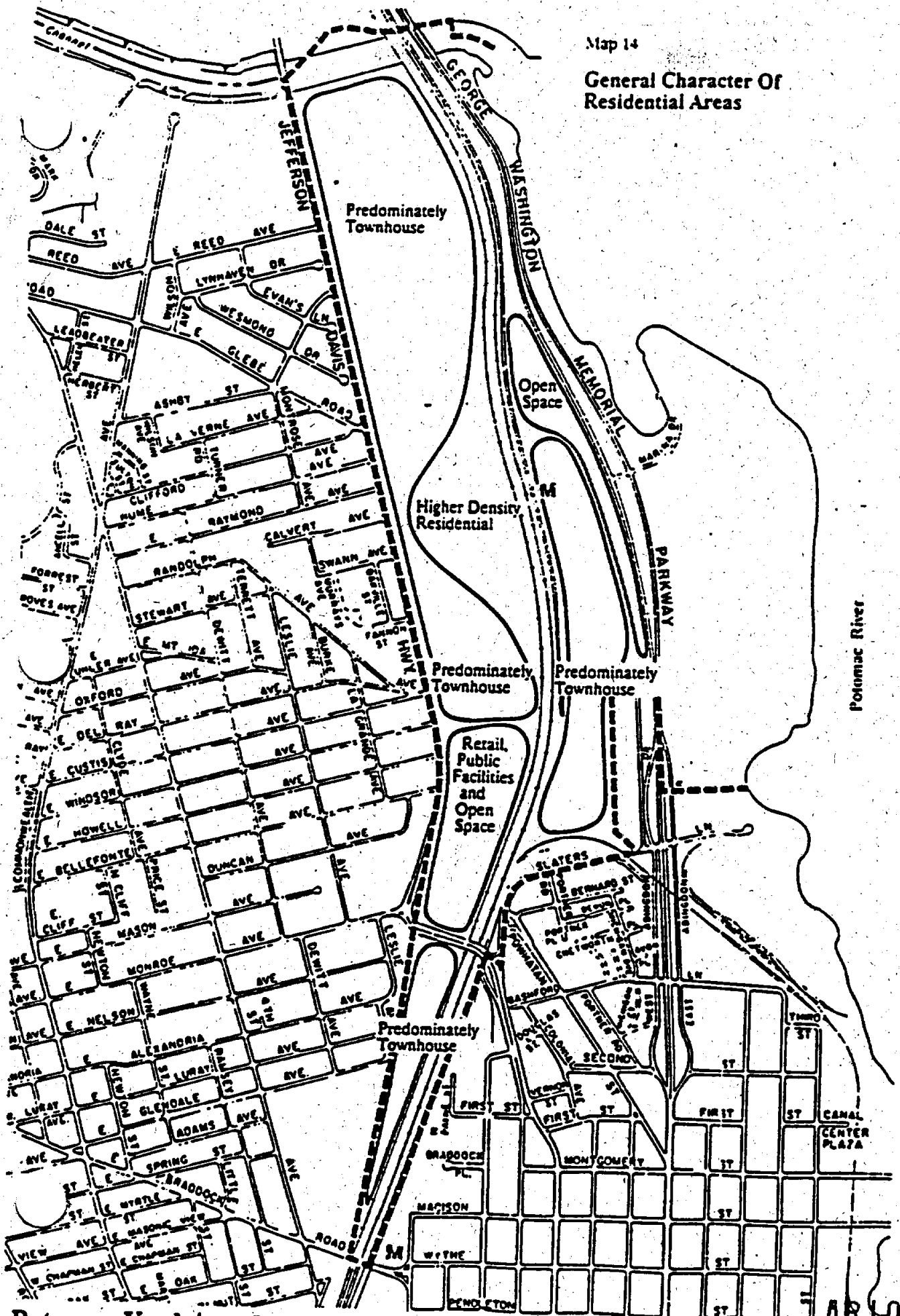
Figure 6

King Street Metro Station Area



Map 14

General Character Of Residential Areas



Potomac Yard /

General Character of Residential Areas

The vicinity of the Metro station is the area appropriate for higher residential densities on the Potomac Yard. Although this area is likely to be predominantly office and commercial retail, some residential development at higher densities should be encouraged on Yard to provide a true mixed use environment.

The Potomac Greens area would have about all of its estimated 15 acres developed in a mix of residential types. In order to minimize the visual intrusion of development on the Parkway, the type and arrangement of the residential structures on this site is critical. The buildings in this area must be set back from the Parkway and set back from each other to allow generous landscaped open spaces between buildings. The low buildings closest to the Parkway should screen the taller buildings to the west. An important goal of development in this area is to ensure that the natural setting and visual character of the Parkway will be preserved.

A lower scale of residential development is appropriate for the Braddock Road subarea. Low to moderate density and scale townhouses should be oriented toward the existing low scale residential neighborhood along Glendale and Alexandria Avenues. Mid-rise residential development is appropriate further east and closer to the Braddock Road Metro station.

The remaining large open portions of the Yard and the Slater's area are proposed to be predominantly low scale and moderate density residential development, consisting mostly of townhouses.

Examples of Residential Densities

In general, the eastern part of the City is predominantly a mix of townhouses and garden apartments, with a few scattered midrise and highrise residential buildings. The densities of these townhouse or garden apartment blocks are typically around 20 du/acre for townhouses, with garden apartments or stacked townhouses (flats) at up to 50 du/acre. Midrise buildings (between 5 and 8 stories) are typically between 50 and 70 du/acre, and highrise buildings (generally above 9 stories) range between 50 du/acre and 100 du/acre.

There are many examples of townhouses and garden apartments in Alexandria within the 20-50 du/acre range of densities. Traditional townhouses, such as Bulfinch Square (North St. Asaph, Pitt and Princess Streets), are at the lower end of this range. This block has surface parking on the interior of the block and a density of approximately 20 du/acre (see Figure 7). Townhouse densities in many blocks in Old Town generally range between 20 and 30 du/acre.

The Watergate project (Figure 8) in Old Town North at 32 du/acre and Brockett's Crossing (Figure 9) on North St. Asaph and Pendleton Streets at 39 du/acre represent townhouse projects at the upper end of the range. The Watergate project has underground parking, although Brockett's Crossing, a much smaller project, does not. However, it is usually difficult to meet the parking requirements of these densities without underground parking.

St. Asaph Square (South St. Asaph, Green, Pitt and Jefferson Streets) at 56 du/acre, provides an example of a denser, garden apartment project slightly above the 20-50 du/acre density range (Figure 10). Barton's Crossing, The Arbors at Landmark and Wyndham garden to mid-rise apartment complexes are also about 60 du/acre, but this plan does not advocate those projects as suitable models of development.

The Colecroft project (see Figure 11), consisting of midrise buildings, townhouses and garden apartments, provides an example of a mix of housing types that average 42 du/acre; the midrise buildings are at 72 du/acre and the townhouses are 28 du/acre. Even though its on-site parking is slightly inadequate, Colecroft is one of the best recent examples within the city of a mix of housing types at moderate densities.

Figure 7

Bulfinch Square

Location:	North St. Asaph and Princess Streets
Density:	20 du/ac (31 units)
Height:	35'
Parking:	offstreet (surface)

Figure 8

Watergate

Location:	North Royal, Second and North Pitt Streets
Density:	32 du/ac (100 units)
Height:	43'
Parking:	underground

Figure 9

Brockett's Crossing

Location:	North St. Asaph between Princess and Queen Streets
Density:	39 du/ac
Height:	22'
Parking:	offstreet (surface)

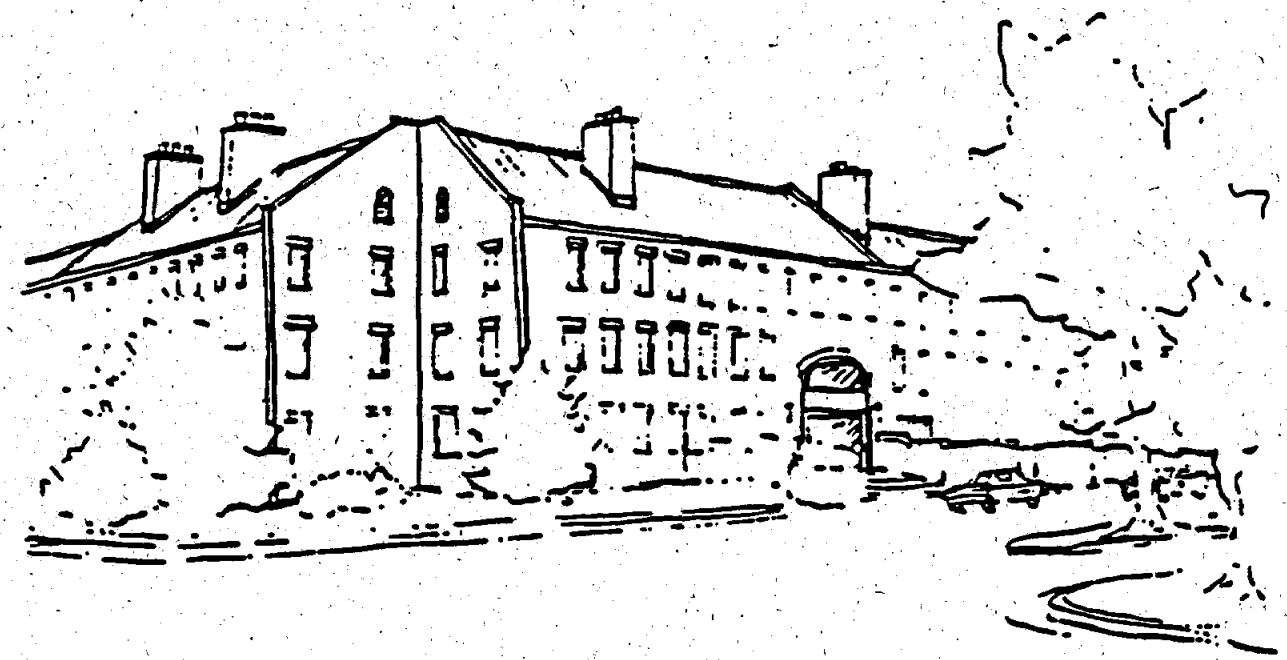


Figure 10

St. Asaph Square

Location:	South St. Asaph and Green Streets
Density:	56.5 du/ac (113 units)
Height:	40'
Parking:	underground

Figure 11

Colecroft Midrise/Townhouse

Location:	North West Street and Braddock Road
Density:	77 du/ac (156 units)
	41 du/ac (131 units)
Height:	77'/40'
Parking:	underground/offstreet (surface)

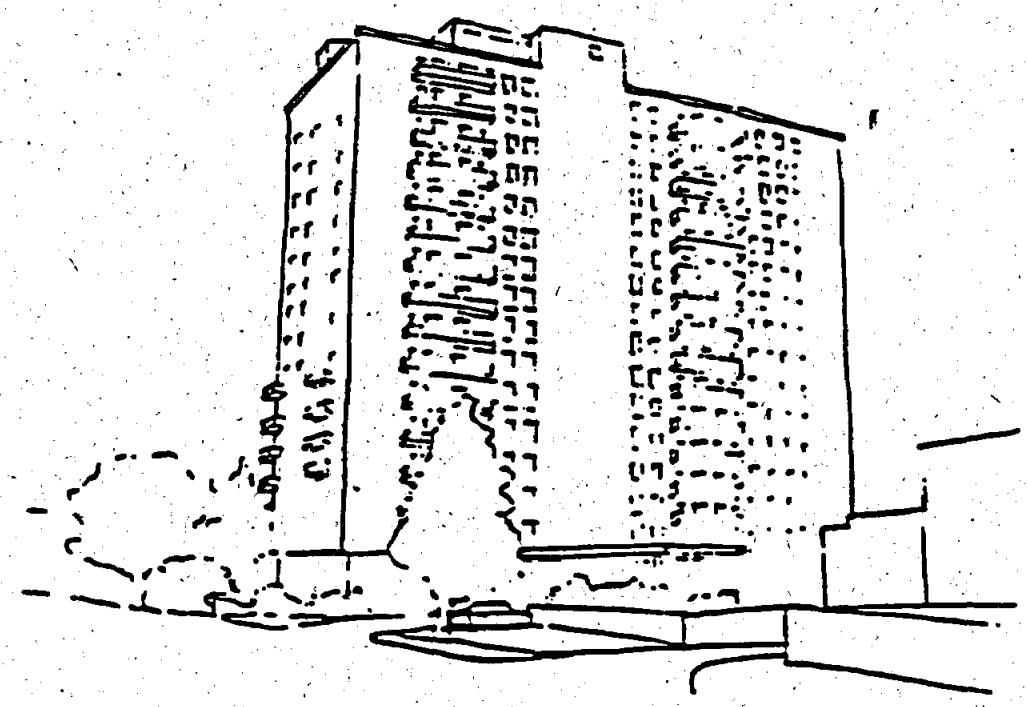


Figure 12

Port Royal

Location:	North Pitt and Montgomery Streets
Density:	100 du/ac (208 units)
Height:	145'
Parking:	offstreet (surface)

The conclusion drawn from the above analysis is that attractive and livable townhouse development with underground parking can occur at densities of up to 35 du/acre and garden apartments or mixed housing areas at densities of up to 40-50 du/acre.

The City has few residential projects which exceed 60 dwelling units per acre. A notable example is the Port Royal condominiums, a high rise building in Old Town North at 100 dwelling units per acre (Figure 12). While the City seldom approves residential developments at above 54 du/acre, the City has, however, followed a policy of increasing residential density allowances near transit stations. For example, the City approved new zoning within 1000 feet of the King Street Metro Station that would allow up to 160 dwelling units per acre. At the Eisenhower Avenue Station, City Council approved the Mill Race project which will have a density of approximately 130 dwelling units per acre. Residential development above 100 units per acre was also approved at selected blocks in the CNS project located between the King Street and Eisenhower Avenue Metro stations.

Hotel and Retail Uses

The appropriate level of hotel development is based on the level of office development. With 2.1 million square feet of office development, approximately 625 hotel rooms are supportable.

Land use goals as well as residential and office development levels are considered in determining the appropriate amount of retail development. With 2.75 million square feet of office space and 3,500 residential units, an estimated 300,000 square feet of retail development can be supported. This amount will provide adequate retail space to support the new residential and office areas. Included in this amount is up to 160,000 square feet for a larger retail center, approximately the size of Hechinger Commons shopping center, serving both the new areas and the existing surrounding community.

Height

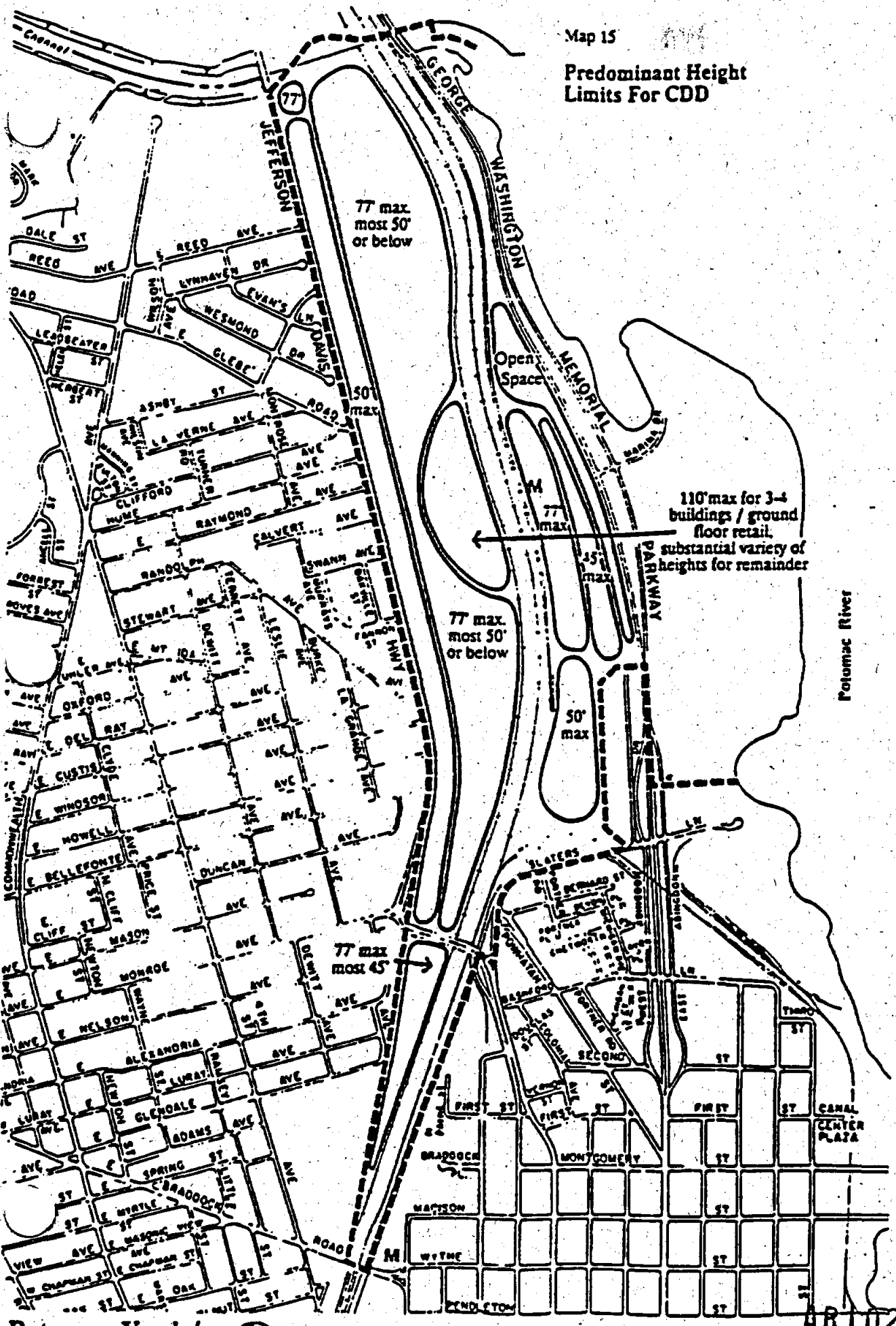
Building heights within the Potomac Yard and Potomac Greens sites should serve a variety of functions and purposes: to emphasize important locations on the site, to provide a focal point for development, to provide special views of landmarks, to provide transitions compatible with adjacent low scale areas, and to add visual interest to the project (see Map 15).

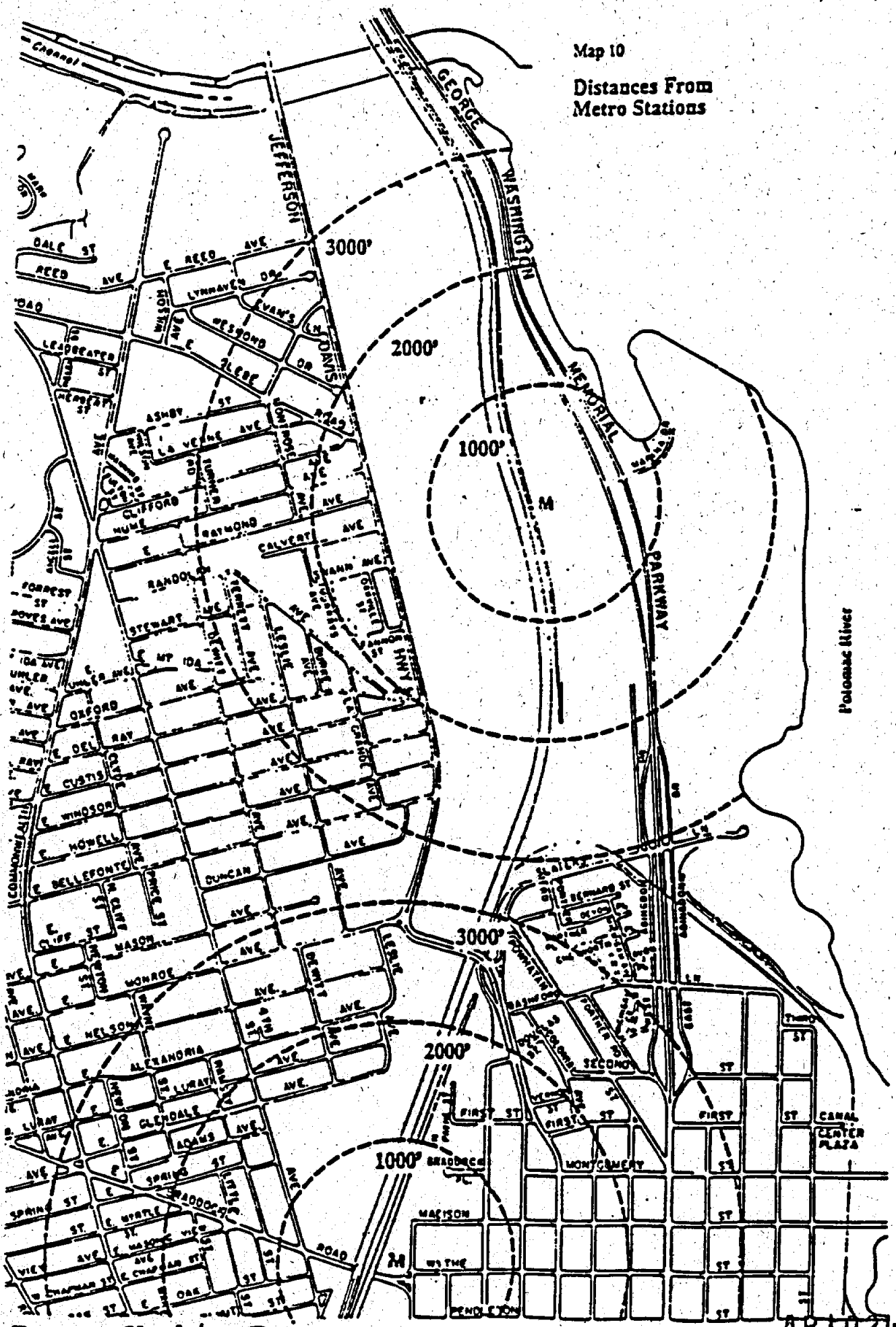
The location of the Metro station in the middle of the site is the appropriate location for greater heights in the Potomac Area. On Potomac Yard tall buildings with heights of up to 110 feet should be concentrated around this area, with the tallest buildings adjacent to the station to provide a focus for the entire area. Areas adjacent to the commercial core should provide a transition from an intense concentration of tall buildings to buildings of more moderate heights.

On the Potomac Greens site, all buildings within 500 feet of the centerline of the Parkway are within the Old and Historic Alexandria District and must remain below 50 feet above average finished grade. This small area plan limits heights adjacent to the Parkway to 45 feet. Buildings outside the 45 foot area and adjacent to the proposed Metro station could rise to varied heights, up to a maximum of 77 feet.

The heights near existing neighborhoods should be kept predominately low, 50 feet or under, to protect these areas from taller, larger scaled buildings. These areas include the southern portion of the site, adjacent to the Braddock Road and Del Ray neighborhoods, and the area adjacent to Potowmack Crossing. West of the railroad tracks, within the residential areas, a limited number of buildings may be allowed to rise to 77 feet.

The height of development along Route 1 should also be 50 feet or under to mirror development to the west, except that one to two buildings may be allowed to rise to 77 feet at Four Mile Run, to mark the entrance to the City.


Map 15
Predominant Height Limits For CDD
77' max. most 50' or below
150' max.
Open Space
77' max.
110' max for 3-4 buildings / ground floor retail. substantial variety of heights for remainder
45' max.
77' max. most 50' or below
50' max
77' max most 45'
JEFFERSON
GEORGE WASHINGTON MEMORIAL PARKWAY
Potomac River
Potomac Yard /


Map 10
Distances From
Metro Stations
3000'
2000'
1000'
JEFFERSON
WASHINGTON
MEMORIAL
PARKWAY
Potomac River
DAVIS
M
Potomac Yard /

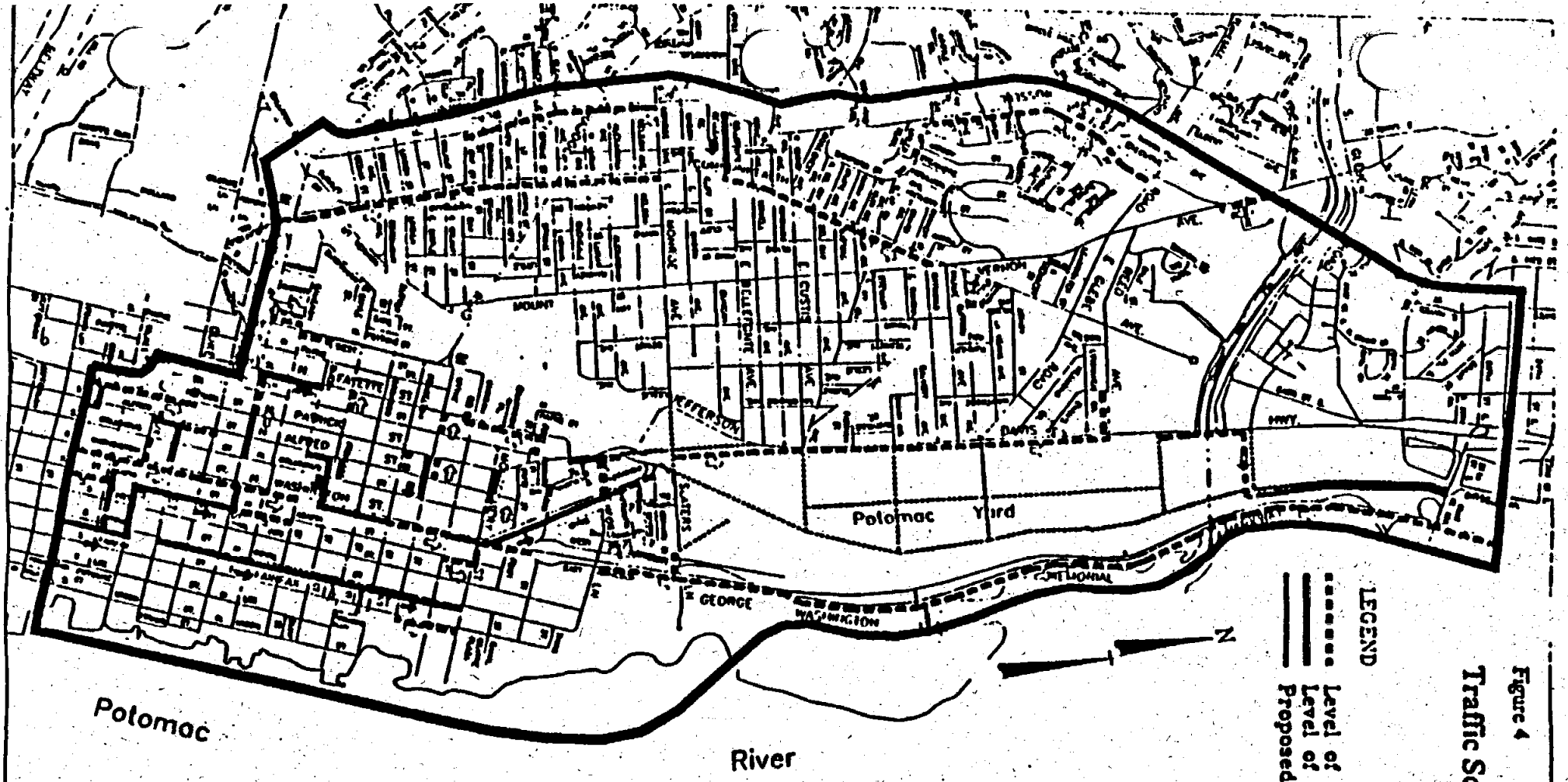


Figure 4
Traffic Scenario D

2010 Market Level Development in the City
2010 Development in the Region
6.6 Million Square Feet of Office Development in Potomac Yard/Potomac Greens
6750 Residential Units in Potomac Yard/Potomac Greens
2010 Potomac Yard Network

AR 11243

HARRIS
Frederic R. Harris, Inc.

Alexandria Transportation Analysis
Potomac Yard Transportation Study

Figure 4-3
Scenario D - A.M. Peak Hour Level of Service

Scenario E (Tests Alexandria 2020 and Potomac Greens Plan)

Scenario E tests full development of Potomac Yard and Potomac Greens: 5.6 million square feet of office development and 6,450 residential units on Potomac Yard in Alexandria and Potomac Greens (plus an additional 4.1 million square feet of office development and 300 residential units on the Arlington portion of Potomac Yard). Scenario E represents full build-out of the Potomac Yard and Greens sites as currently proposed by their owners compared with Scenario D. Although congestion does increase slightly when the additional development is added in this scenario, generally, peak hour congestion levels remain generally the same as under Scenario D; there is moderate congestion on north-south streets in the Potomac West area and more marked congestion within the Old Town and Braddock areas.

Effect of Additional Road Improvements

The Harris report analyzed additional scenarios which tested the effect of various road improvements on congestion levels and concluded that the following improvements would offset some of the problems created by growth:

1. construction of streets proposed as part of the Potomac Yard project, especially the spine road connecting Route 1 at Monroe Street with Crystal Drive in Arlington,

2. construction of an at-grade, controlled access, two-lane, reversible roadway along the eastern edge of the RF&P railroad right-of-way from the proposed I-95 interchange at Clermont Avenue to the Potomac Yard development,

3. widening of U.S. Route 1 from 4 to 6 lanes between Monroe Avenue and Reed Avenue, with all the widenings to be done within the boundary of the Potomac Yards project, and

4. enhancement of the I-395 northbound exit ramp to Glebe Road and the widening of S. Glebe road to six lanes between the interchange and U.S. Route 1.

The Harris report finds that these proposed roadway improvements would not solve all of the traffic problems in the area, but that they would bring about a considerable reduction in traffic congestion, particularly on the Jefferson Davis Highway and on some east-west streets in the neighborhoods immediately west of Potomac Yard. However, none of these proposed improvements would contribute substantially to alleviating the congestion within Old Town.

Conclusions from Report

- Peak hour traffic conditions within the City will continue to deteriorate and will be extremely congested by the year 2010, whether or not any development occurs on the Potomac Yard/Potomac Greens tract, because of the regional growth of traffic.

- With or without Potomac Yard/Greens development, the City will need to consider improvements to the transportation system that will reduce traffic impacts on residential neighborhoods near the tract.

- Based on the traffic study, the major opportunity to decrease peak hour future traffic congestion from what it might otherwise be in 2020 is to encourage the construction of the spine road and street grid proposed as part of the development of the Potomac Yard; those roads will be beneficial regardless of whether or not Alexandria 2020 is built.

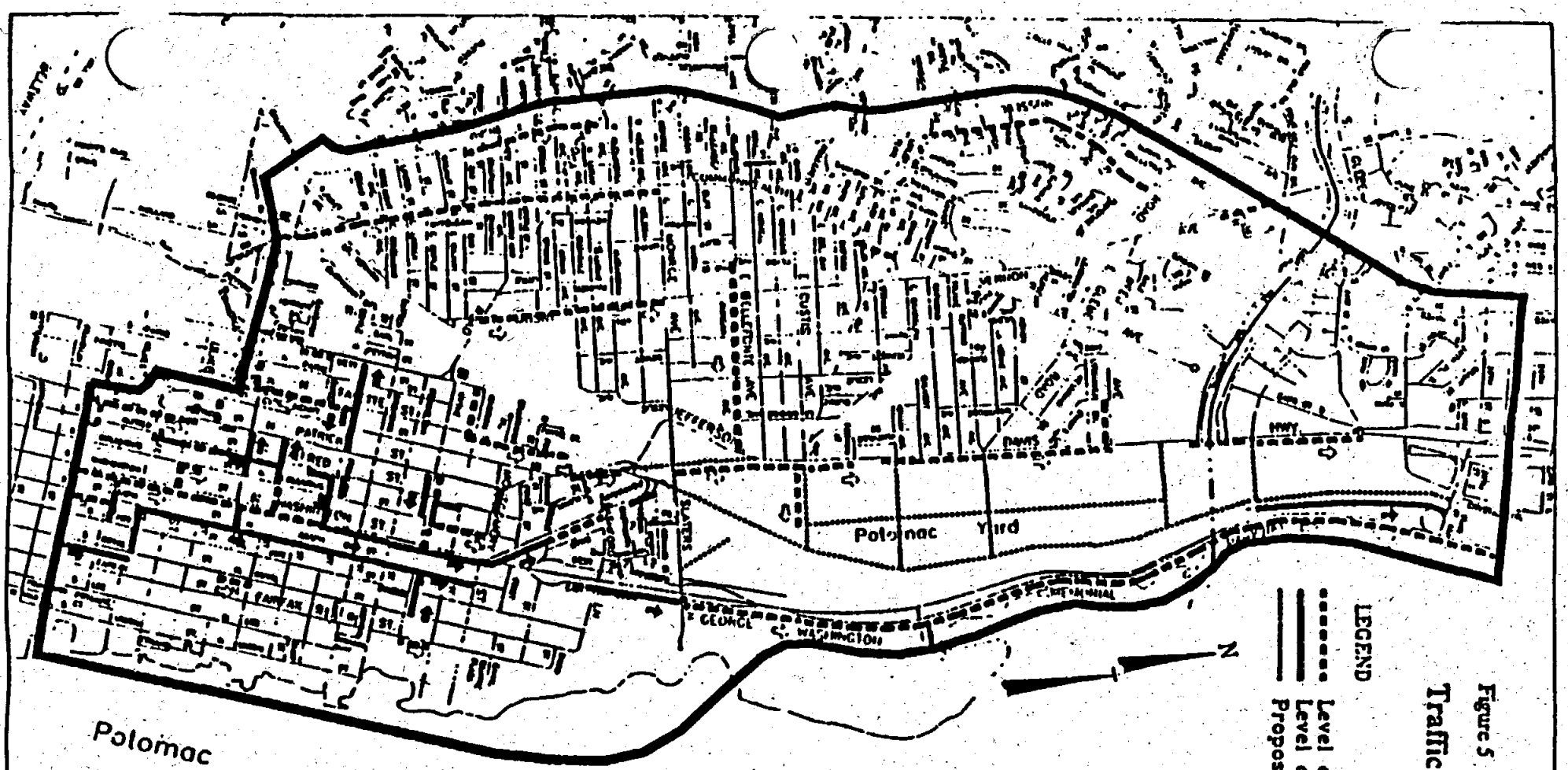


Figure 5
Traffic Scenario E

2010 Market Level Development in the City
2010 Development in the Region
9.7 Million Square Feet of Office Development in Potomac Yard/Potomac Green
6750 Residential Units in Potomac Yards/Potomac Greens
2010 Potomac Yard Network + Enhanced I-395 N.B. ramp to S. Glebe Rd.

HARRIS
Frederic R. Harris, Inc.

Alexandria Transportation Analysis
Potomac Yard Transportation Study

Figure 4-4
Scenario E - A.M. Peak Hour Level of Service

- Development on the Yard and its associated road and transit improvements can improve transit and high occupancy vehicle use. A metro station, a commuter rail facility, and improved bus service feeding into rail transit can benefit the entire eastern portion of the City. By providing a network of streets, the development of the Yard can help distribute traffic along several streets thereby alleviating traffic congestion on Jefferson Davis Highway. The people moving potential of the U.S. Route 1 corridor could also be improved with construction of additional HOV lanes connecting Fairfax County and Arlington County.

- With development in Alexandria, locally destined traffic may begin to displace the peak hour through traffic. Although this displacement of through traffic does not necessarily diminish traffic problems, the City has a greater opportunity to mitigate local traffic impacts through the Transportation Management Program and the use of other traffic control measures than it does regional through traffic.

- In the Old Town and Braddock Road Metro areas, development of the Yard results in displacement of some peak hour through traffic; therefore, the peak hour impacts of the Potomac Yard development are not as great as might be expected, although conditions are still very congested. The construction of a two-lane reversible road along the RF&P right of way into the project does not help to alleviate congestion in the Old Town area, but does alleviate peak hour congestion in the Potomac West area.

- Large scale commercial development on the Potomac Greens site could not be accommodated without construction of an interchange and additional merge lanes along the Parkway at the interchange. Intense commercial development on the Greens site would also impact the Slaters Lane/Washington Street intersection more severely than would similar development on the Yard site.

A Final Note Regarding The Transportation Analysis:

The analysis in the Harris report is based on the use of the City traffic model which is based on an analysis of traffic conditions only in the A.M. peak hour. Therefore, the study findings are relevant only for that peak hour; the model cannot accurately predict the peak period impacts, which might be far greater, or the impact on local streets.

The traffic model allocates peak hour traffic to the fastest route between two points. The computer may assign "traffic" to one route over another because the calculated travel time is 0.1 second faster. As a street reaches capacity, the model will search for alternate, less congested routes. However, the traffic model will continue to allocate peak hour traffic to streets even after those streets have reached their real capacity, if less congested alternative routes are not available. As a practical matter, however, as all of the available alternatives reach capacity, traffic will be displaced from the peak hour to adjacent hours in the peak period under all the scenarios tested.

Although the traffic model can predict that most major radial streets will be filled to capacity at peak hour with or without the Potomac Yard development, the model cannot predict the extent to which the peak period will be lengthened. Based on recent trends, we would expect congestion to increase significantly within the peak period.

Therefore, the model predicts that construction of the Potomac Yard/Greens development will have a limited additional impact on major radials in the peak hour over and above the congestion created by 20 years of growth in the region, if major road improvements are constructed. Still, development will very likely result in lengthening congestion beyond the peak hour to include at least other hours in the peak period, and lengthening the peak period itself.

LAND USE AND URBAN DESIGN ANALYSIS

The prospect of development of the Potomac Area over the next 30 years has enormous implications for the City. Redevelopment of the railroad properties has the potential to physically transform these largely vacant sites into an urban center with homes, offices, shops, parks and roads. This redevelopment will also inevitably affect the City's image and character, and how it is perceived by its citizens and by others.

The railroad properties including Potomac Yard and Potomac Greens collectively constitute the largest contiguous tract of land available for development in the City of Alexandria, with an area of approximately 303 acres. It is one third of a mile wide by two miles long, comparable to an area in Old Town and Old Town North from Slater's Lane to the Capital Beltway and from St. Asaph Street to the Potomac River.

The redevelopment of this area is equivalent to creating an entirely new community within the City. It is unlikely that this new community will mirror the low density patterns of development which surround the site. Those areas were built in earlier times and in response to different historical patterns.

On the other hand, the City does not desire that this new community mirror the densities, heights or character of Crystal City or Pentagon City. Alexandria has consistently pursued development policies for moderate heights and densities (except near transit stations) to suit its land use objectives and to ensure that new development does not overwhelm surrounding residential areas.

This analysis explores the issue of appropriate development densities and heights for this area. The analysis is based on the City's overall land use objectives and the urban context, legal issues concerning the development of the site, and the physical opportunities and constraints attendant to that development. The purpose of the analysis is to develop specific land use and design principles which will serve as guidelines for redevelopment of the Potomac Yard and Greens sites. The intent of these guidelines is to create a new Potomac community that will add vitality and diversity to the City and strengthen and enhance adjacent neighborhoods.

Urban Context

To the north, the study area is defined by Four Mile Run which flows from west to east under Jefferson Davis Highway and the George Washington Memorial Parkway and out into the Potomac River (Map 1). A very small area of Alexandria, approximately 1.6 acres, lies north of Four Mile Run. This area, and the rest of the Potomac Yard site in Alexandria constitute approximately 264 acres. The remainder of the Yard north of Four Mile Run is in Arlington County.

To the east, the Potomac Greens site, an area of approximately 39 acres, borders the George Washington Memorial Parkway. East of the Parkway is the Daingerfield Island Park and marina where the dominant visual features are the trees and occasional views of the Potomac River. The context for development of the Potomac Greens site is a natural and mostly undeveloped scenic environment.

To the west, Jefferson Davis Highway and a strip of commercial and industrial uses along the highway separates Potomac Yard form nearby residential neighborhoods. The commercial and industrial uses, although not generally compatible with the abutting residential area, act to buffer the residential neighborhoods of the Potomac West community from the heavily traveled Jefferson Davis Highway and from the railroad yard.

There are two large potential redevelopment sites along the Highway across from the Potomac Yard. One is a 30 acre site adjacent to Four Mile Run consisting of vacant, industrial land which is being considered for mixed use development under the guidelines of a Coordinated Development District. This site along with the northwest portion of the Potomac Yard forms a northern gateway to the City.

The other large redevelopment site is the 24 acre Oakville Triangle site, located along Jefferson Davis Highway between the former W&OD right-of-way and Swann Street, which consists of a large concentration of light industrial uses. While the Potomac West Small Area Plan calls for continued industrial development of this site, long term redevelopment of the site, possibly for mixed use development, could occur as the value of the land increases and as industrial uses become less viable within the city.

The southern portion of the Potomac Yard, including the piggyback yard, borders on the Braddock Road Metro station area and the Parker Gray and Northeast neighborhoods. These neighborhoods are predominantly residential with commercial and industrial uses generally providing the buffer between residences and the rail yard. North of Slater's Lane and along the Parkway is Potowmack Crossing, a garden apartment complex, and the only residential area immediately adjacent to the study area.

Along Monroe Avenue and west of the Yard is Simpson Field. South of Monroe Avenue is a mix of low scale residential and industrial uses along Leslie Avenue, the George Washington Junior High school and various softball and soccer/football fields and track.

Legal Context

Two legal issues influence the development of the Potomac Yard and Potomac Greens sites: the court-approved Potomac Greens site plan and access from Potomac Greens to the George Washington Memorial Parkway. In determining the appropriate levels of development for the new Potomac community, each of these issues must be addressed.

The Potomac Greens site plan which was submitted in April, 1987 proposed 2,343,300 square feet of office and 107,100 square feet of retail development. This plan was not approved by the City. However, following a suit by the developer, the site plan was upheld by the Federal District Court and an order requiring the city to approve the site plan was entered. That decision is now being appealed by the City. Pending the outcome of the appeal, the district court order has been stayed. If the site plan is subsequently upheld, the development requested in the site plan must be granted. In this event, the small area plan will have to be reviewed in its entirety.

The site plan requires access directly to the George Washington Memorial Parkway. The Parkway is a major north/south, regional highway serving traffic with a four lane, limited access roadway and a large landscaped median. There are no turning lanes or interchanges now provided to serve the Potomac Greens site. RF&P and the National Park Service have contracted to allow RF&P to construct a diamond interchange with the Parkway at Daingerfield Island. This agreement is being contested by a citizens' suit. The City does not advocate the interchange. This small area plan contemplates that there will be no access to the Potomac Greens from the Parkway.

Constraints on Development

Development of the Potomac Yard and Potomac Greens sites will be affected by several major physical constraints. (Map 5) Although the Potomac Classification Yard is closing, other rail services must be maintained. In addition to the Metrorail tracks, which will stay in their present location, two or possibly three tracks requiring a right-of-way of about 120 feet must be retained on the site to accommodate freight, Amtrak, and future Virginia Commuter service. Continued service to the PEPCO Generating Plant on Slater's Lane must also be accommodated.

Regardless of where these required tracks are located, they will have the effect of separating developable portions of the site from each other or from the community. The impacts of the rail corridors would be reduced if rail trackage were moved to the eastern edge of Potomac Yard adjacent to the Metrorail line.

Environmental constraints also exist on the Potomac Greens site. It is probable that the wetlands areas bordering the Parkway will be designated as a preservation area under the forthcoming Chesapeake Bay regulations; development is likely to be limited to the remainder of the site. Map 6 illustrates the proposed wetlands preservation area.

Because of the proximity of the site to National Airport, the FAA regulations will constrain the heights of buildings throughout the area. In addition, the FAA regulations will specify where the tallest buildings may be located and where only buildings of moderate height would be allowed due to the established flight path.

Opportunities for Development

Although the constraints for redevelopment of the site are considerable, so are the opportunities (see Map 9). The Potomac Yard and Potomac Greens sites are among the largest urban properties available for redevelopment inside the Beltway. These sites are favorably located near the employment hub of the Washington Metropolitan area and near major transportation facilities, including Washington National Airport, I-395, U.S. Route 1, the George Washington Memorial Parkway and Metrorail.

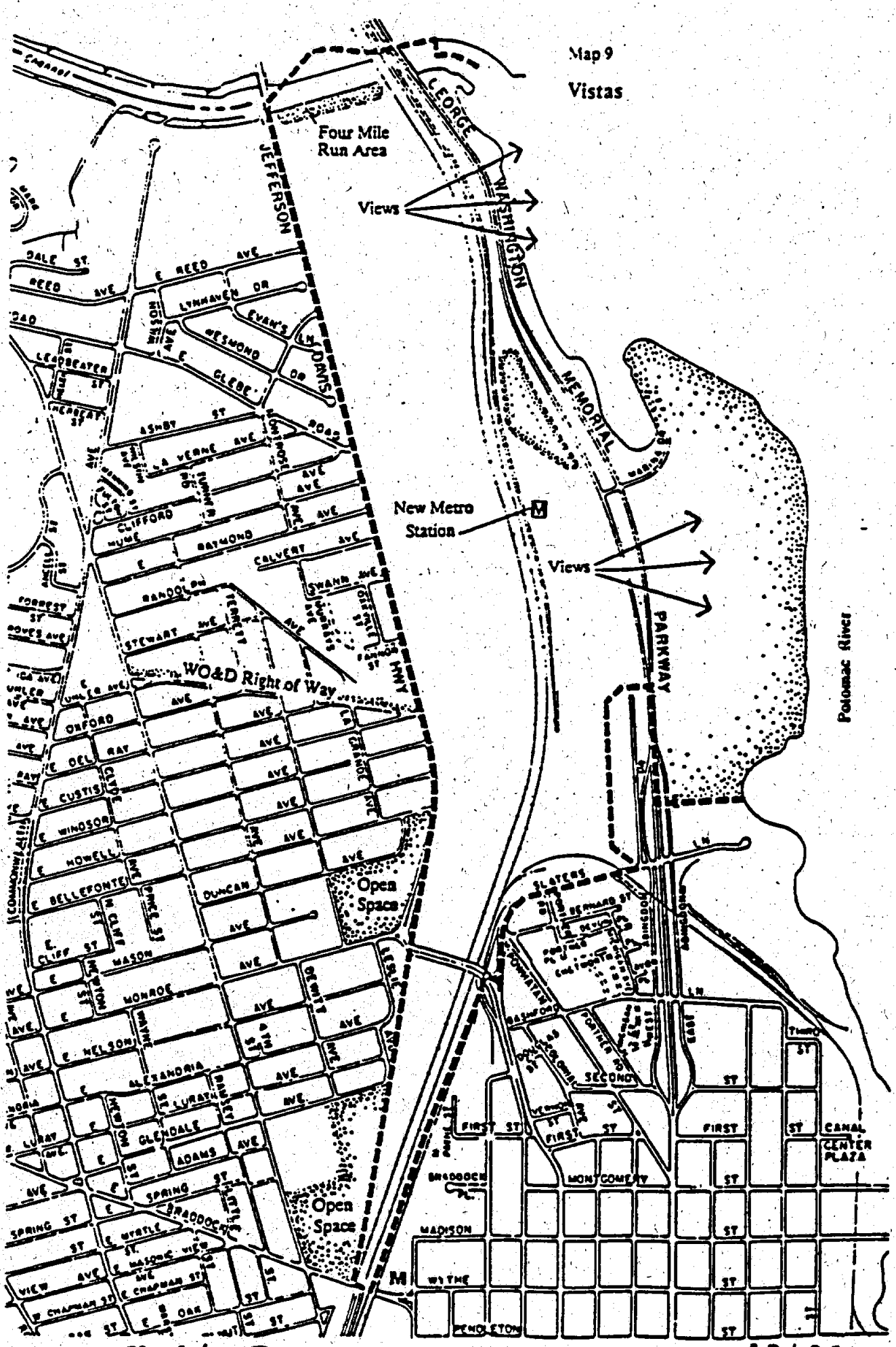
The sites are also located near major open space/recreational facilities and residential uses which creates the opportunity to physically and functionally connect new development to existing neighborhoods and open space systems. For example, the eastern portion of the property bordering the George Washington Memorial
Parkway offers views of the Potomac River and provides opportunities for development in a park-like setting. The proximity of Daingerfield Island provides open space amenities and recreational areas particularly appropriate for higher quality residential development on Potomac Greens.

Four Mile Run provides the site with a valuable recreational and scenic opportunity. With removal of some of the trackage across the Run, more of this water feature could be exposed to view. Landscaping and the development of recreational water oriented uses would provide an attractive setting for development on both sides of the Run.

Near Four Mile Run, a portion of the Yard extends out toward the George Washington Memorial Parkway. This area provides some of the best views of the Potomac River and the national monuments and is a natural area for a large open space area with surrounding residential development.

The site provides the opportunity to create a new Metro station in the center of the area, providing access to an extensive regional transportation system. If built, the new Metro station will also provide transit service within walking distance to new residential development on the Potomac Yard and Potomac Greens sites and proximate to existing residential neighborhoods. Map 10 indicates distances to the new Metro station proposed for the Potomac Yard and Potomac Greens sites. Most of the Potomac Yard site north of the Monroe Street Bridge and a large portion of Potomac West would be within a 10 to 15 minute walk of the Metro station. The portion of the site south of the Monroe Street Bridge is within a 10 to 15 minute walk of the Braddock Road Metro station.

While the piggyback yard north of Slater's lane is not especially attractive today, redevelopment of the Yard and removal of the piggyback facility will provide a site insulated from through traffic movements and with potential for a residential neighborhood.



Potomac Yard /

AR102444

GOALS AND RECOMMENDATIONS

GOALS AND OBJECTIVES

The goals of the Potomac Yard/Potomac Greens Small Area Plan are:

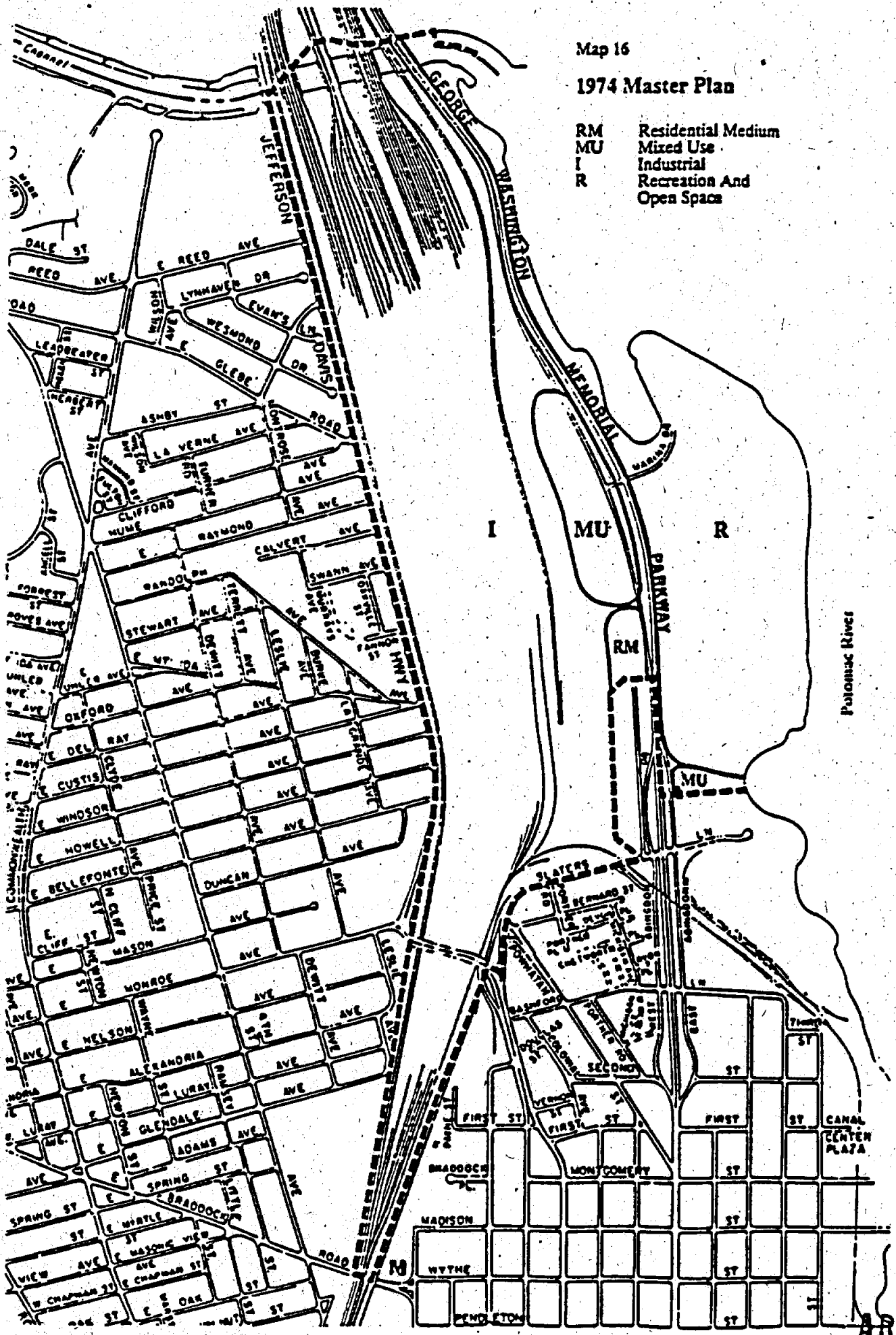
- to encourage the redevelopment of Potomac Yard and Potomac Greens as a pedestrian oriented urban environment with a mix of uses
- to develop livable neighborhoods and successful commercial areas
- to integrate redevelopment of Potomac Yard into the fabric of the City through the design and arrangement of uses, streets, open space and pedestrian systems.
- to protect neighboring residential areas from the impacts of traffic and incompatible development.
- to minimize traffic, visual and environmental effects of development on the George Washington Memorial Parkway
- to increase the accessibility of existing neighborhoods to the Potomac River, Four Mile Run and transit facilities.

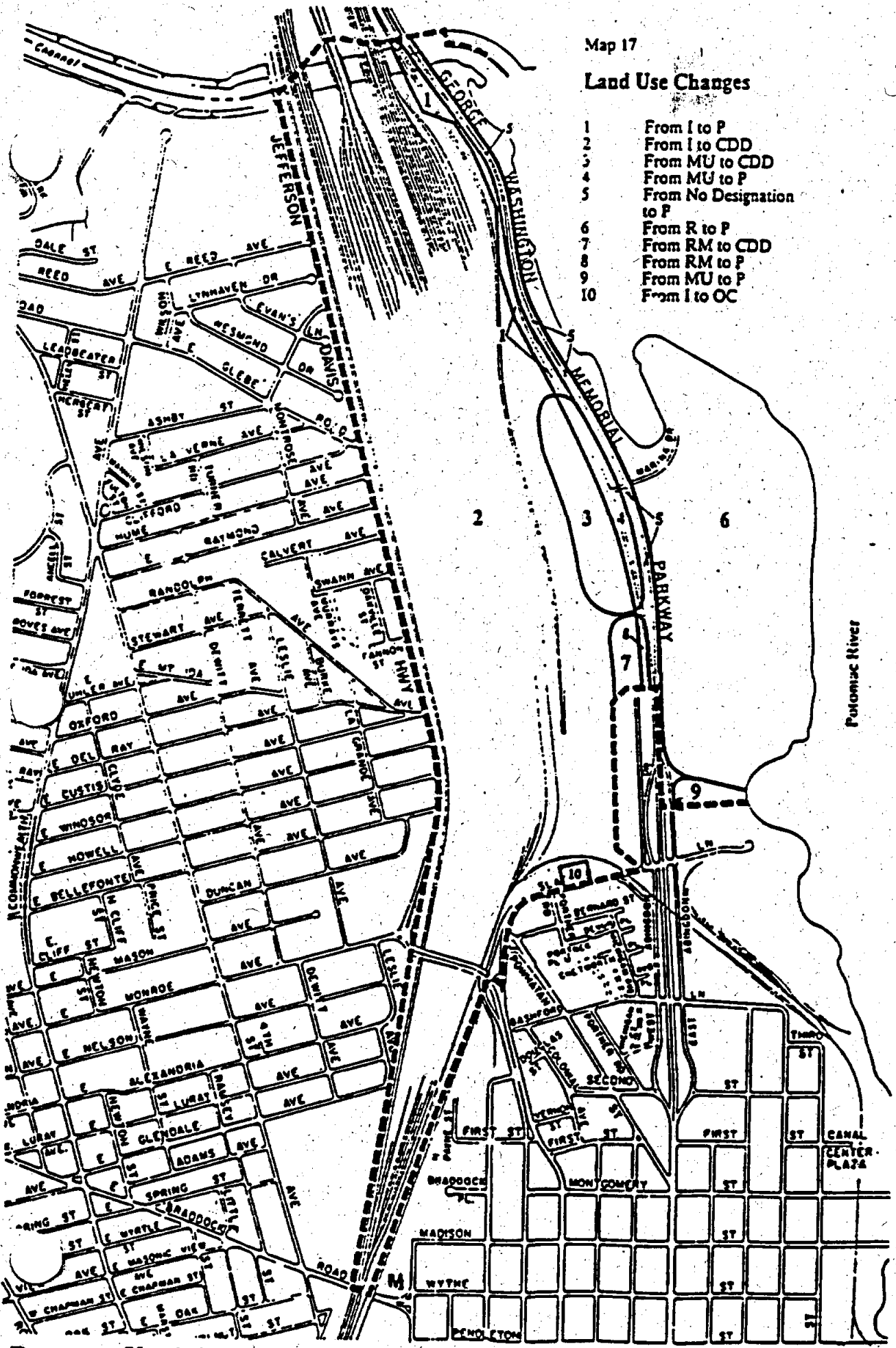
PROPOSED LAND USE AND ZONING

To achieve these goals, this Plan recommends that the entire privately owned area within the Small Area Plan be designated a Coordinated Development District, except for the commercial properties located on the north side of Slater's Lane. These properties are not owned by RF&P and should be designated OC-Office Commercial, compatible with the properties on the south side of Slater's Lane. Daingerfield Island and the George Washington Memorial Parkway should be designated WPR-Waterfront Park.

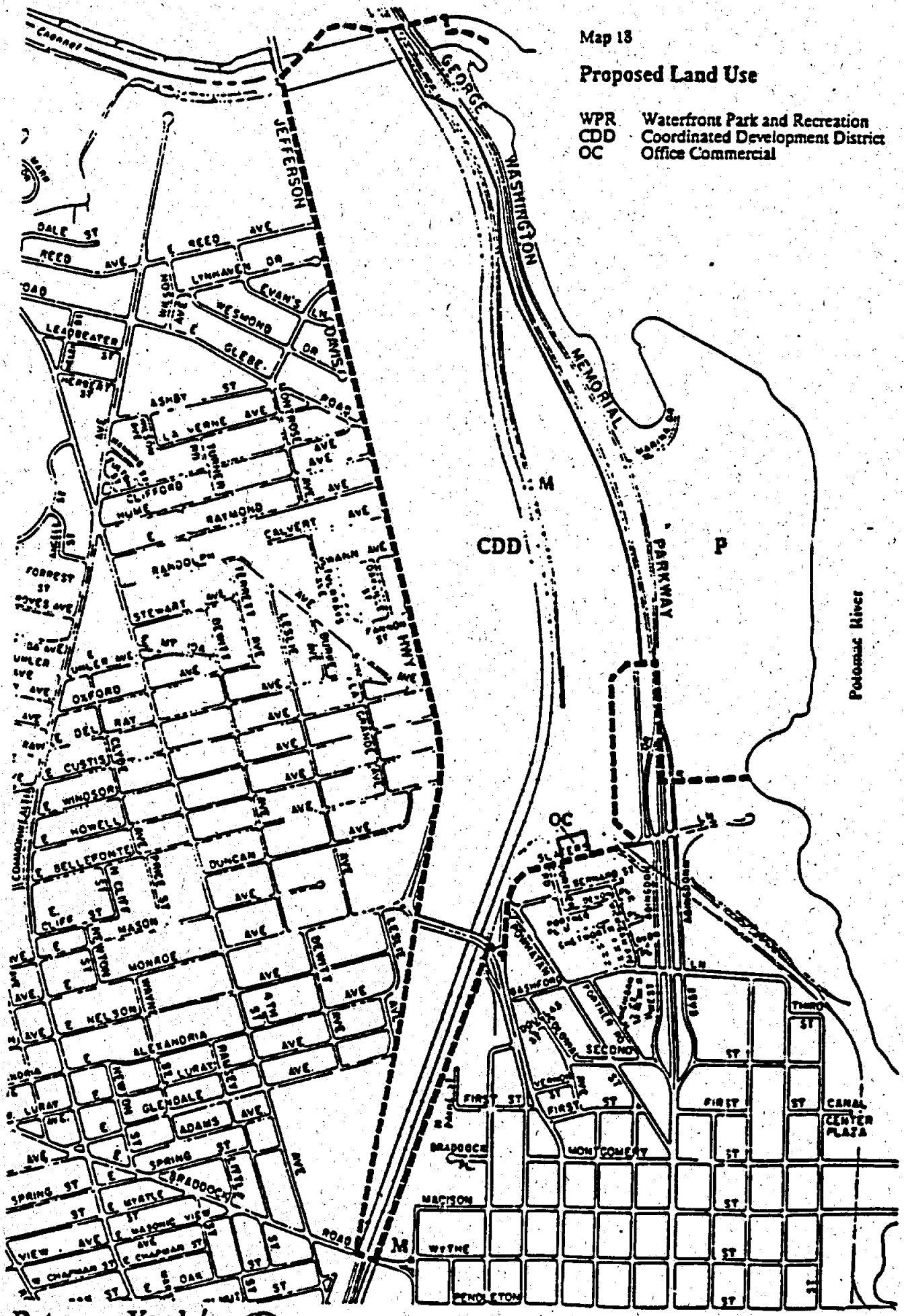
Development in the Coordinated Development District will be guided by a land use concept plan as discussed in the Land Use and Urban Design Analysis section of this Plan, and by the CDD principles expressed below. This section includes the following maps:

- Map 16 - 1974 Master Plan
- Map 17 - Land Use Changes
- Map 18 - Proposed Land Use
- Map 19 - Existing Zoning
- Map 20 - Zoning Changes
- Map 21 - Proposed Zoning
- Map 22 - Existing Heights
- Map 23 - Land Use Concept
- Map 24 - Height Limits for CDD

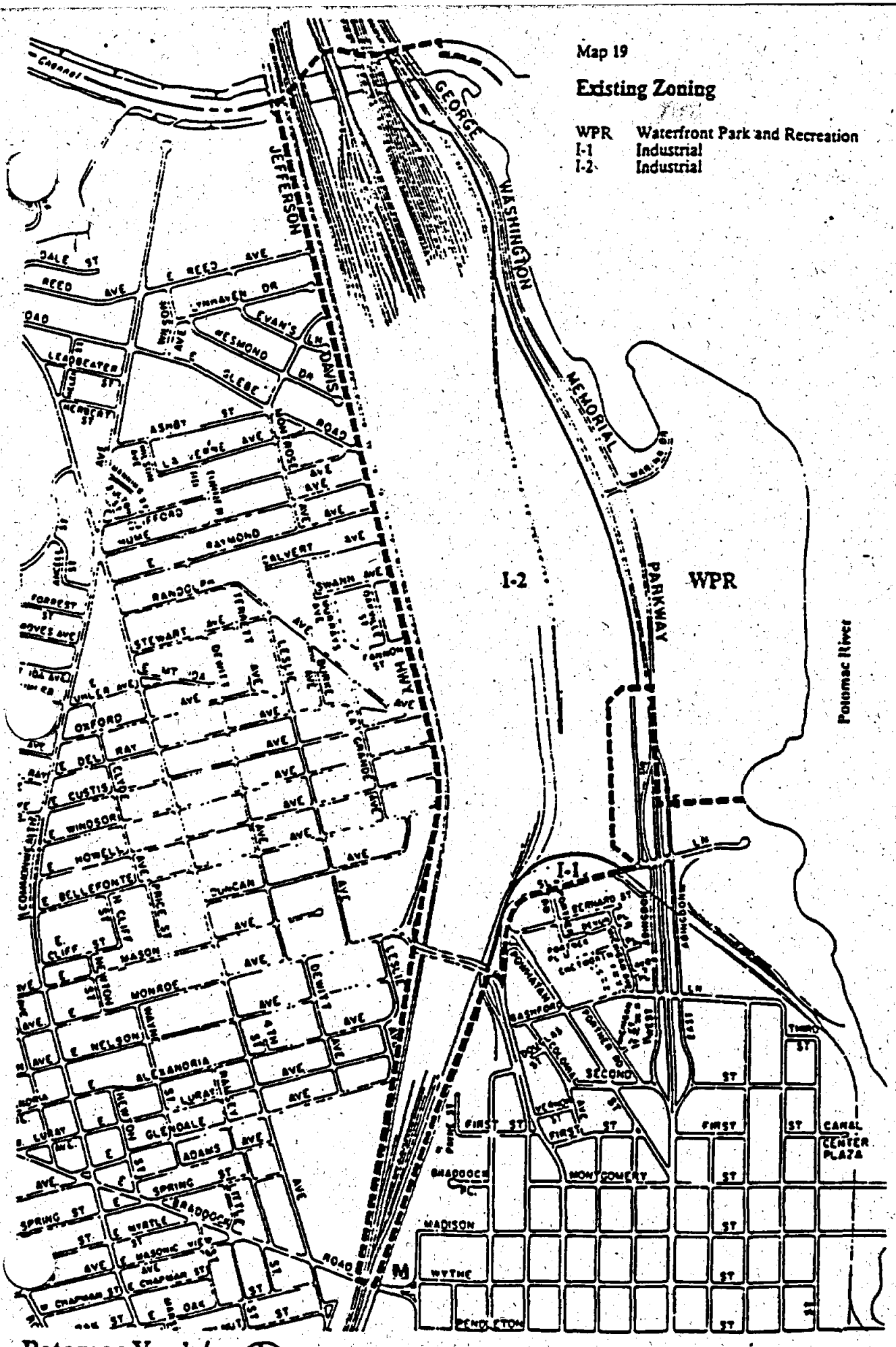

Map 16
1974 Master Plan
RM Residential Medium
MU Mixed Use
I Industrial
R Recreation And Open Space
I
MU
R
RM
MU
GEORGE WASHINGTON MEMORIAL PARKWAY
JEFFERSON DAVIS HIGHWAY
Potomac River
Potomac Yard /

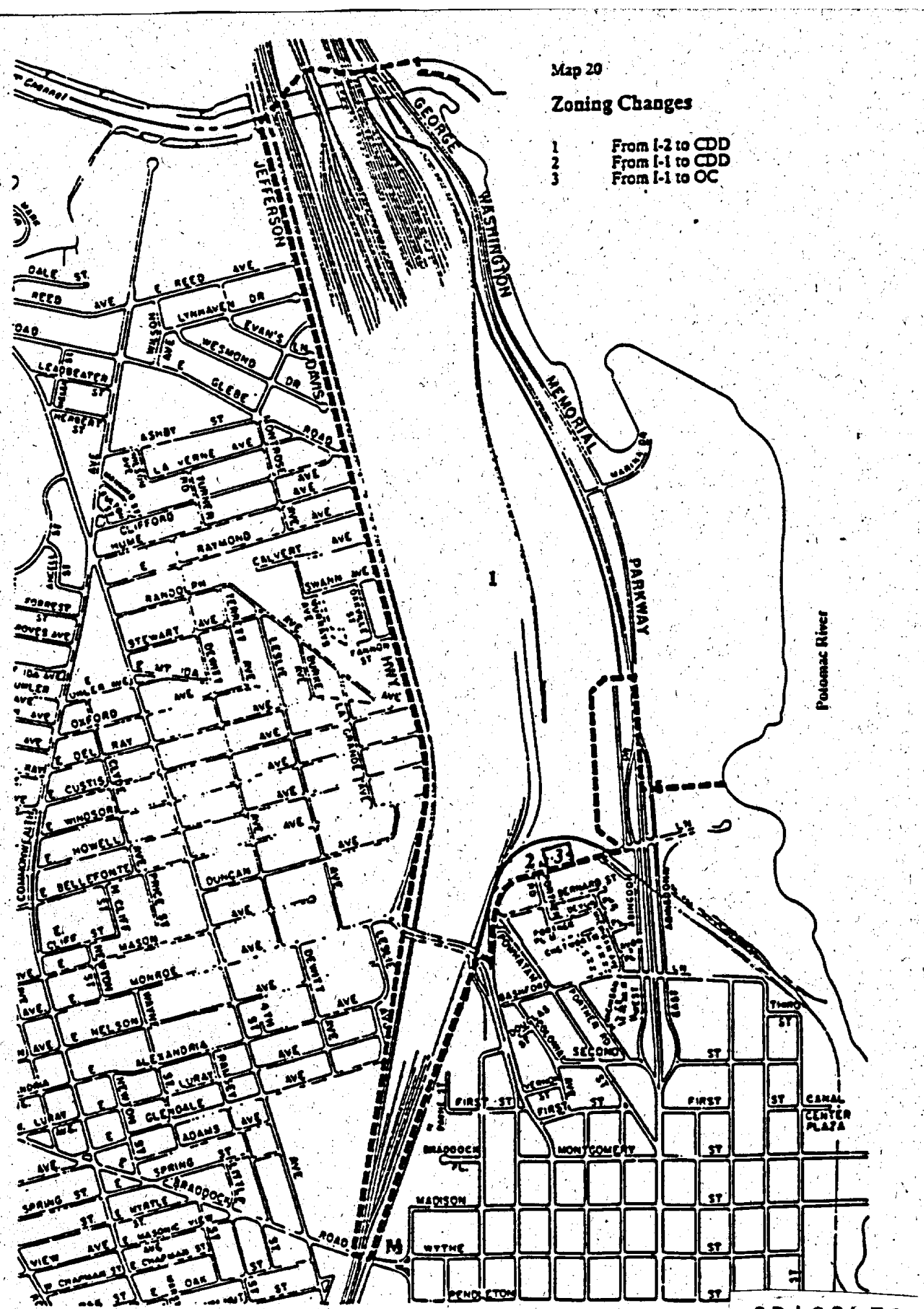


Potomac Yard / Potomac Greens

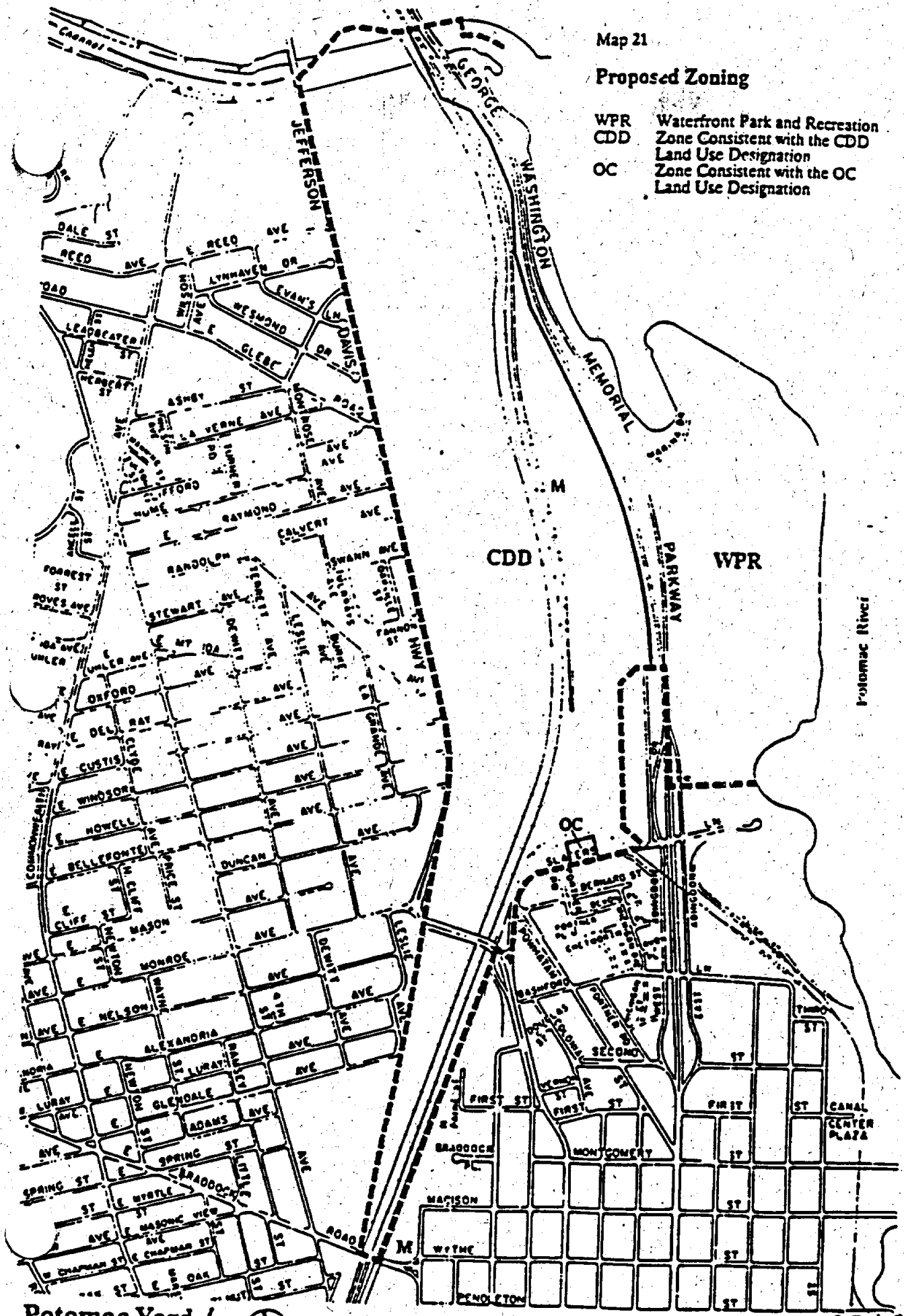


Potomac Yard / Potomac Greens


Map 19
Existing Zoning
WPR Waterfront Park and Recreation
I-1 Industrial
I-2 Industrial
I-2
WPR
I-1
GEORGE WASHINGTON MEMORIAL PARKWAY
JEFFERSON DAVIS HWY
Potomac River
Potomac Yard / Potomac Greens
ARI02451

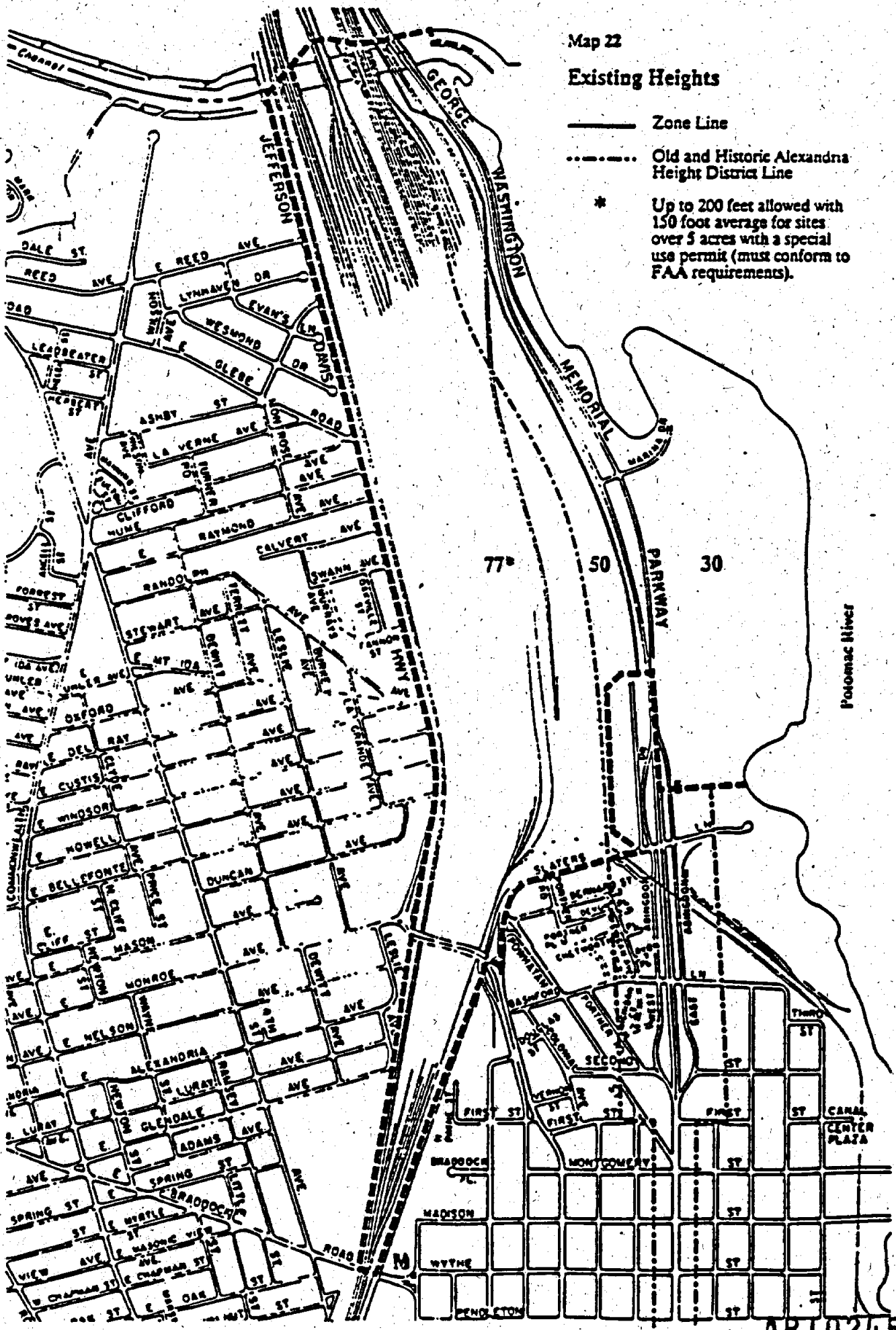


Potomac Yard / Potomac Greens



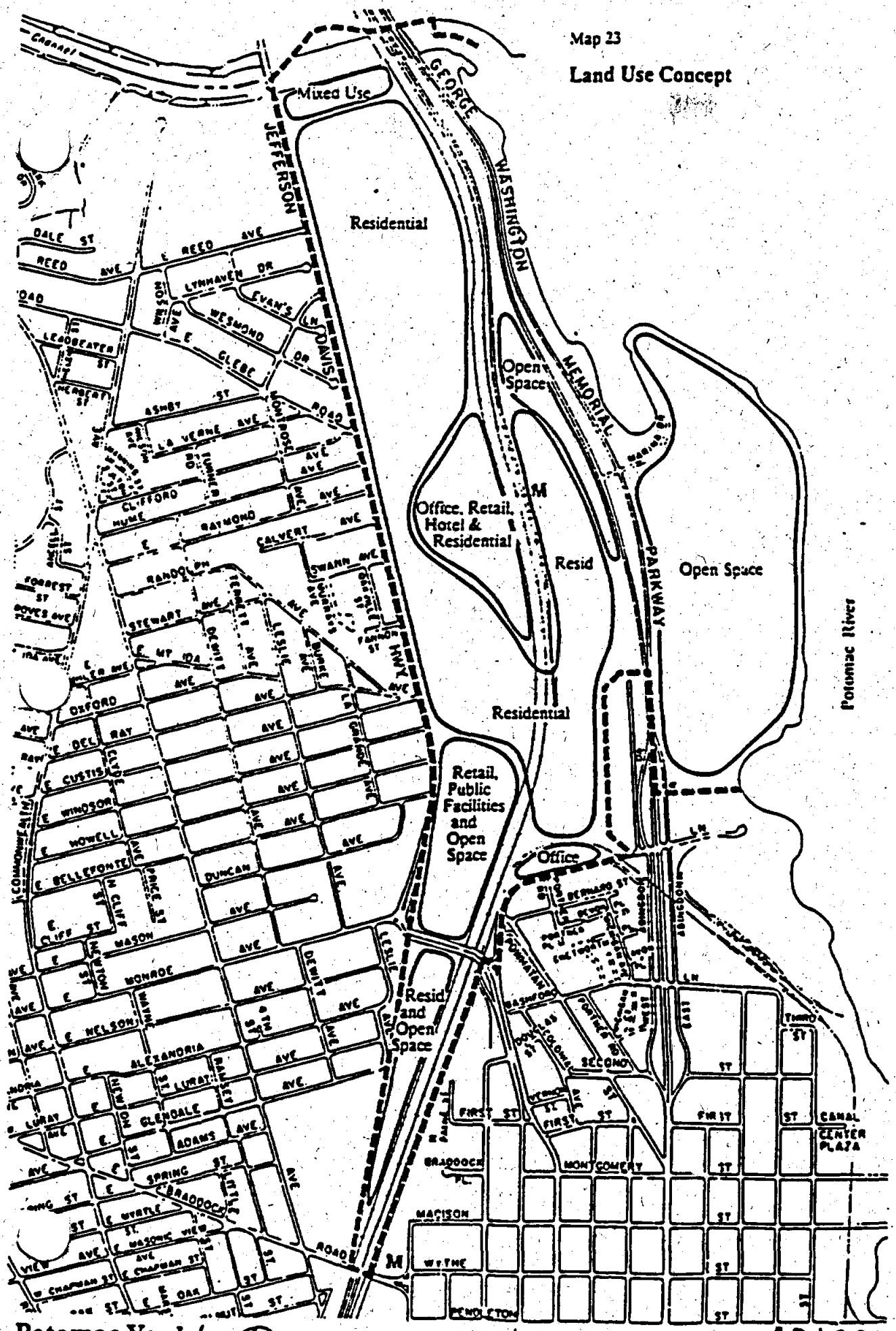
Potomac Yard / Potomac Greens

AR102453


Map 22
Existing Heights
Zone Line
Old and Historic Alexandria Height District Line
* Up to 200 feet allowed with 150 foot average for sites over 5 acres with a special use permit (must conform to FAA requirements).
77*
50
30
GEORGE WASHINGTON MEMORIAL PARKWAY
Potomac River
JEFFERSON DAVIS HWY
Potomac Yard / Potomac Greens

Map 23

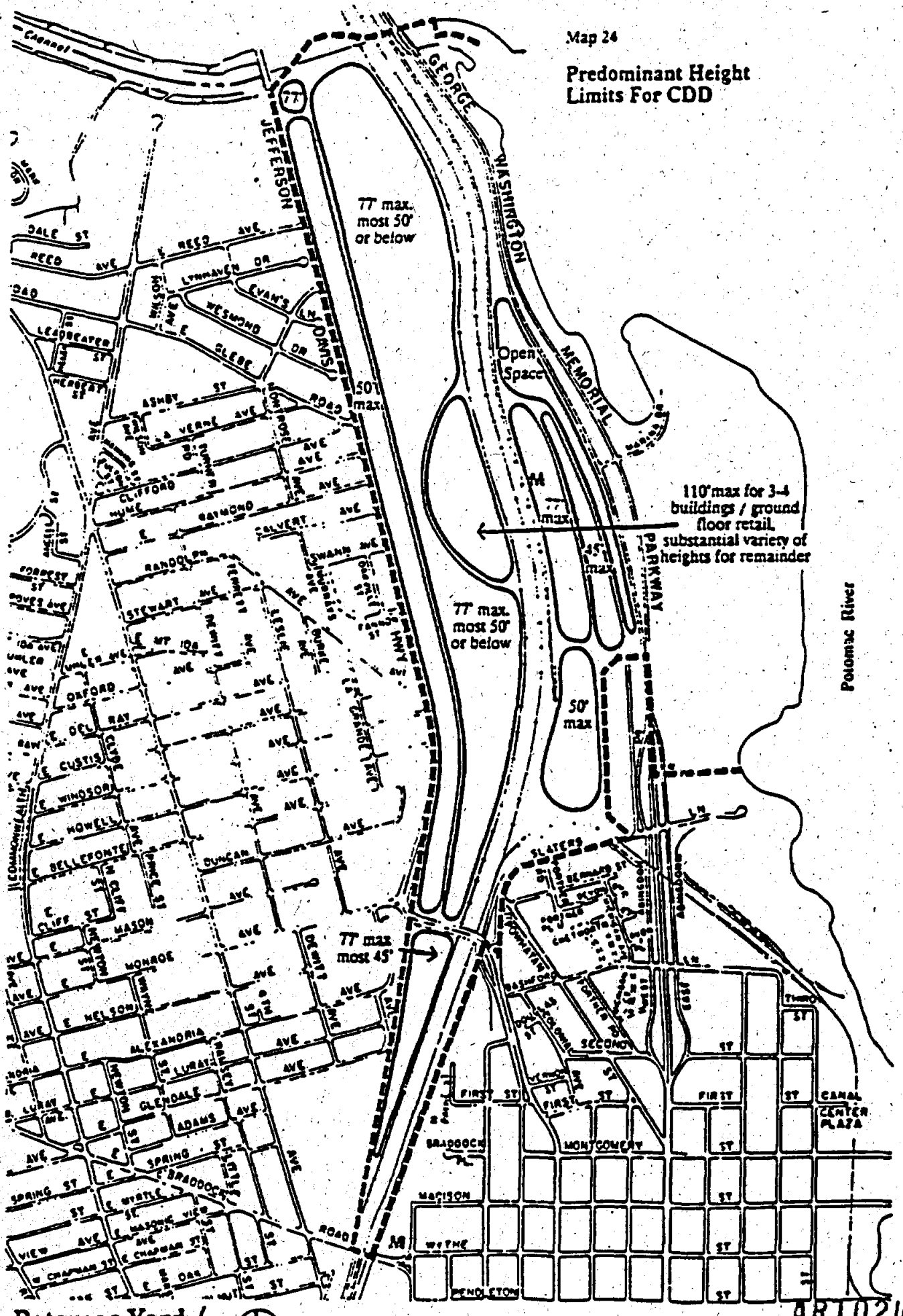
Land Use Concept



Potomac Yard / Potomac Greens

Map 24

Predominant Height Limits For CDD



Potomac Yard /

CDD Guidelines for Potomac Yard/Potomac Greens

Development under the Special Use Permit procedures within the CDD shall be in accord with the following principles:

General

1. The entire area encompassed by the CDD designation shall be treated as one integrated mixed use development area under the procedures specified in the CDD zone.

2. Except for interim uses all railroad trackage shall be located or relocated generally adjacent to the existing Metrorail tracks.

3. All on site utilities shall be placed underground.

4. The total amount of development allowed on this site shall be as follows:

   1) 2.75 million square feet of office space;
   2) 625 hotel rooms;
   3) 300,000 square feet of retail space;
   4) 3,500 residential units.

   The City Council acknowledges the right of the owner of the site, or a successor in interest, to apply for an amendment to this plan and to the City's zoning code which would increase the amount of development permitted on the site pursuant to a CDD plan. Council also acknowledges that a future city council may look favorably on such an amendment if the then existing development on the site and the proposed increase in development has not caused, and is not expected to cause, adverse impacts on the overall character of and quality of life in the City, and in particular the residential neighborhoods that are near the site and are affected by the vehicular traffic traveling to and from the site.

   In the event the Potomac Greens site plan, which is currently in litigation, is upheld by the courts and a decision to proceed with the site plan project is made, appropriate revisions to this paragraph and other CDD principles will be made.

Phasing

5. The proportion of uses in each phase shall be specified in the conceptual design plan submitted to the City for approval. At no time shall the proportion of residential uses in the aggregate amount of development that has been constructed and occupied be less than the proportion of residential uses in the overall development stated in paragraph 4.

6. Each development phase within the CDD shall contain all infrastructure and facilities necessary to accommodate that phase of development.

Mixed Use Development

7. The area shall be predominantly residential with 1) a mix of land uses with office, supporting retail, restaurants and higher density housing concentrated near the metro station, 2) a mix of housing types, 3) a possible shopping center to serve the district and nearby residential neighborhoods, 4) a variety of retail and service uses scattered throughout the district at appropriate locations, 5) a variety of parks and open spaces and 6) community facilities as needed.

Open Space

8. Approximately one third of the net site area (total site area less streets and rights of way, Four Mile Run and rail operating land), shall be dedicated to the City for public parks or accepted by the City as usable open space.

9. All major open space in the CDD shall be connected by pedestrian and bicycle trails to existing open space and recreation facilities in surrounding neighborhoods.

10. There shall be a system of bikeways connecting the residential areas to the Metro station and to the primary recreation facilities.

11. A landscaped strip of at least 30 feet shall be provided along Jefferson Davis Highway as a buffer between the new buildings and Route 1.

Residential Uses

12. At least two-thirds of the residential units shall be townhouses, at a variety of densities. Up to one-third may be multifamily units.

13. Ten percent of the residential units constructed on the site shall be made affordable. An amount equivalent to the provision of an additional five percent of the on site residential units as affordable shall be made available to the City for use in the provision of off-site affordable housing.

Office Uses

14. The transfer of office space from Potomac Greens to Potomac Yard shall be encouraged, subject to City Council review.

Public Institutions and Facilities

15. Up to 7 acres of land or comparable space, as determined by the City, shall be provided for public institutions and facilities, including school and school-related facilities. In addition, land shall be made available for sale to Virginia Power for a substation if it is needed. Needs will be determined at the time that a development plan is submitted for review.

Interim Uses

16. Interim uses on sites planned for later phases of development under a CDD SUP shall be permitted subject to the special use permit process, provided that the City Council determines that such uses are compatible with adjacent uses and with the adopted long range development plan for the CDD and that the uses do not exceed the heights and densities allowed in the underlying zone.

Transportation

17. A new Metrorail station shall be built and paid for by the developer(s) at an appropriate location within the CDD area; the station shall have convenient pedestrian and bicycle access from the Potomac Greens and Potomac Yard portions of the CDD.

18. The Metrorail station shall be designed to accommodate a commuter rail station on the Potomac Yard site. The commuter rail and Metro station area shall be designed so as to provide joint and convenient access to bus feeder services.

19. Designated pedestrian and bicycle crossings shall be provided across Jefferson Davis Highway, the rail corridor, and the George Washington Memorial Parkway.

20. The CDD street system development shall be designed to minimize use of existing residential streets to the east, west and south of the project by commercial traffic heading to or from the site.

21. The existing Monroe Avenue Bridge shall be maintained as a four lane facility.

22. Through vehicular connections between the Potomac West area and the Potomac Yard section of the CDD north of the Monroe Avenue Bridge shall be limited to E. Glebe Road, S. Glebe Road, and Swann Avenue. Access to and from Jefferson Davis Highway will be determined in consultation with adjacent communities.

23. There shall be no intersection or connection between the George Washington Memorial Parkway and the Potomac Greens site by which motor vehicles can access that site from the Parkway or by which vehicles can access the Parkway from the site.

24. No curb cuts serving individual development projects will be allowed on Jefferson Davis Highway.

25. The use of rail cars shall be maximized for the transportation of construction materials and equipment to and from the development site. All construction related traffic shall use I-395 to access the site when rail transport is not feasible.

26. A comprehensive transportation management plan shall be required to encourage employees to travel by modes other than single-occupant vehicles. As a minimum standard the development must meet a 30% transit usage and 1.4 auto occupancy rate within one year after the Metro station is opened unless otherwise provided by the TMP.

27. In the event that projected development results in a traffic spillover onto residential streets, the City shall implement traffic control mechanisms to mitigate such spillover and protect local neighborhoods. These measures shall include the neighborhood protection measures discussed on pages 31-33 of the City's Master Transportation Plan.

Urban Design

28. Buildings shall be designed and sited to be in consonance with the historic character of the adjoining historic districts. The heights of buildings in the Potomac Yard and Potomac Greens areas shall follow the height limits shown on Map 25.

29. Buildings along Route 1 shall be limited to 50 feet except for 1-2 buildings at Four Mile Run, which may rise 77 feet.

30. Buildings in the interior of the Potomac Yard site designated for residential use shall have a maximum height of 77 feet provided that a predominant number of the buildings will rise no higher than 50 feet.

31. In the commercial core west of the proposed Metro station, no more than three or four buildings may rise to a height of 110 feet, provided that they have retail uses on the ground floor; the remaining buildings in that area shall display a substantial variety of heights below 110 feet.

32. South of the Monroe Street Bridge, the heights shall be predominantly 45 feet, with a few buildings allowed up to 77 feet.

33. Buildings on the Potomac Greens site shall be designed and sited so as to minimize the visual impact of development along the Parkway.

34. East of the Metro tracks, buildings within 500 feet of the George Washington Memorial Parkway shall be limited to 45 feet; outside of the 500 foot line and within 1500 feet of the Metro station buildings shall be of varied heights up to maximum of 77 feet; all others shall be limited to 50 feet.

35. Parking in the area shall be underground to the maximum degree feasible and shall be well screened where above ground.

36. Vistas and views of the National Capital monuments shall be maintained from open space wherever possible.

37. In general, a grid system with moderate block sizes shall be favored on the Potomac Yard.

38. An Urban Design Advisory Committee appointed by City Council shall review proposed urban design guidelines and individual buildings proposed to be built under the guidelines, with the technical assistance of the Department of Planning and Community Development, and its comments shall be presented to the Planning Commission and City Council for consideration in connection with any development plan submitted for approval.

Environmental Issues

39. Prior to and as a condition to the commencement of any development activities on the Potomac Yard site, one or more studies shall be conducted to determine the nature and extent of environmental pollutants which are present on the site. Based on these studies, a plan for the remediation of such pollutants, by removal or otherwise, shall be prepared and submitted to the city, to the Virginia Department of Health and any other appropriate state agencies, and to any federal agencies having and asserting authority with respect to the site's remediation. Such plan shall include an identification of the types and location of the environmental pollutants located on the site, a description of the methods to be undertaken to remediate such pollutants, and a schedule containing the estimated periods over which such remediation methods will be undertaken. During the city's review of the plan, the city council may conduct a duly advertised public hearing on the plan. No remediation activities may be undertaken pursuant to the plan unless and until the plan, whether in its original or an amended form, has been approved by the city, the Virginia Department of Health, and any other state and any federal agencies having review and approval authority. Following such approvals, the plan shall be implemented in accordance with its provisions. No construction or other development activity may commence on any portion of the site unless that portion has been remediated in accordance with the terms of the approved remediation plan, and the city has determined that portion of the site, following its remediation, will not be adversely affected by any pollutants existing on the portions of the site which will remain unremediated.

The prior provisions of this condition shall apply to the Potomac Greens equally.

Historic Resources

40. Prior to any development, cultural resource studies shall be conducted and a management plan shall be prepared to: determine the location and significance of prehistoric and historic resources; to identify the historic context and character of Potomac Yard and Potomac Greens and surrounding historic neighborhoods; and to set forth appropriate preservation strategies. The preservation measures shall be taken in a timely manner in accordance with federal, state and local standards.

41. Historically significant resources and themes including, but not limited to, Preston Plantation (the only known Alexander family site within Alexandria), the Alexandria Canal, and the railroad industry shall be commemorated through appropriate landscapes, exhibitions, buildings and signage.

42. To the extent possible, the developer should work with the City to develop and implement a job training and placement program to provide training and employment opportunities for City residents.

DEVELOPMENT WITHOUT A CDD SPECIAL USE PERMIT

Within the CDD zone the uses permitted without a CDD special use permit shall be as follows: The area south of the Monroe Street Bridge and the area east of the Metro tracks shall be RB (townhouse); the first 250 feet east of Route 1 shall be CSL; the remainder of the site shall be I (industrial).

RF+P

ORDINANCE NO. 3604

AN ORDINANCE to amend and reordain Section 5-602 (COORDINATED DEVELOPMENT DISTRICTS CREATED, CONSISTENCY WITH MASTER PLAN, REQUIRED APPROVALS) of Article V (MIXED USE ZONES) of the City of Alexandria Zoning Ordinance.

WHEREAS, the City Council of Alexandria finds and determines that:

1. The Potomac Yard/Potomac Greens Small Area Plan chapter of the 1992 Master Plan of the City of Alexandria has been amended by Ordinance No. 3603, adopted November 24, 1992, to increase the amount of development permitted under the CDD guidelines for the small area plan from 2.75 to 3.75 million square feet of office space, from 3,500 to 4,500 residential units, and from 300,000 to 425,000 square feet of residential space; and

2. For the reasons stated in the record of such master plan amendment, it is necessary and desirable to amend the City of Alexandria Zoning Ordinance to implement the aforesaid amendments to the master plan; and

3. Based upon the foregoing findings and all other facts and circumstances of which the city council may properly take notice in its capacity as the legislative body of the City of Alexandria, Virginia, adoption of this ordinance is necessary a desirable to protect the public health, safety and general welfare; now, therefore,

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That paragraph (10) of Section 5-602(A) of the City of Alexandria Zoning Ordinance be, and same hereby is, amended to read as follows:

[Table Appears on Page Two]

	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum F.A.R and/or development levels	Maximum Height	Uses
10	POTOMAC YARD/GREENS	The RB zone regulations shall apply to the area south of the Monroe Avenue Bridge and east of the Metro Tracks, the CSL zone regulations shall apply on the first 250 feet east of Rte 1. and the I zone regulations shall apply on the remainder of the site.	Up to 3,750,000 square feet of office space Up to 625 hotel rooms Up to 425,000 square feet of retail space Up to 4,500 residential units	Along Route 1 - up to 50 feet except for 1-2 buildings at Four Mile Run may rise to 77 feet In the Commercial core around the Metro Station - up to 110 feet for 3 to 4 buildings, with the rest of the buildings showing a substantial variation in height below 110 feet In the interior of the site designated for Residential - 77 feet provided that a predominant number of the buildings rise no higher than 50 feet South of the Monroe Street Bridge - predominantly 45 feet, with a few buildings allowed up to 77 feet East of the Metro tracks - up to 45 feet within 500 feet of the GWMP, up to 77 feet outside of the 500 foot line and within 1500 feet of the Metro station, 50 feet elsewhere	Predominately residential with a mix of land uses to include office, retail and service, hotel, parks and open spaces, and community facilities

Section 2. That Section 5-602 of the City of Alexandria Zoning Ordinance, as amended by this ordinance, be, and the same hereby is, reordained as part of the City of Alexandria Zoning Ordinance.

Section 3. That this ordinance shall become effective at such time as all of the following events have occurred: (1) the pending litigation with the RF&P Railroad Company and related parties over the city's 1987 decision to reject a site plan application for the development of Potomac Greens shall have been dismissed with prejudice, the district court's final order of April 3, 1991, shall have been vacated and the court's memorandum opinion of February 27, 1991, shall have been withdrawn; (2) all pending litigation with the RF&P Railroad Company and related parties over the city's 1992 decision to rezone the Potomac Yard and Potomac Greens shall have been dismissed with prejudice; and (3) the city attorney shall have certified the occurrence of events (1) and (2) to the city clerk. It is the intent of city council that, in the event the effective date provision of this ordinance is declared invalid for any reason, the provision shall not be considered severable from the remaining portion of the ordinance, and that, in such event, the remainder of the ordinance shall be deemed invalid and shall be considered of no force and effect.

PATRICIA S. TICER
Mayor

Final Passage: December 12, 1992

5-512 Additional regulations for single-family, two-family and townhouse dwellings.

(A) *Lot size.* Each single-family dwelling shall be located on a lot with a minimum land area of 5,000 square feet. In the case of a two-family dwelling, the lot shall contain 2,500 square feet of land area for each dwelling unit.

(B) *Frontage.* When measured at both the front lot line and the front building line, each single-family dwelling and two-family duplex dwelling requires a minimum of 50 feet of frontage, and a semi-detached dwelling requires a minimum frontage of 37.5 feet for each dwelling unit.

(C) *Yards.* For residential uses the following yard requirements apply: Each single-family, and two-family dwelling shall provide a front yard of 20 feet; a rear yard based on a 1:1 setback ratio and a minimum of eight feet; and side yards based on a 1:3 setback ratio and a minimum of eight feet. Each interior end unit townhouse shall provide a side yard based on a 1:3 setback ratio and a minimum of eight feet.

(D) *Mixed use.* When a development includes both residential and nonresidential uses, the residential lot size, frontage and yard regulations shall be applicable to the residential component of the development.

5-513 Accessory apartments. One or two apartment dwelling units, located on a floor or floors above retail or commercial uses, shall be permitted as an accessory use. Such apartments shall be categorized as nonresidential for the purpose of applying the area and bulk regulations of this zone, and each such apartment shall provide the parking required for a multifamily dwelling unit of equivalent size.

(Ord. No. 3606. §§ 6—9, 12-12-92; Ord. No. 3612. §§ 1, 3, 1-23-93; Ord. No. 3629, §§ 1—4, 5-15-93)

Sec. 5-600 CDD/Coordinated development district.

5-601 Purpose. The CDD is established for those areas which are of such size or are so situated as to have significant development related impacts on the city as a whole or a major portion thereof and in order to promote development consistent with the master plan. A site zoned CDD is intended for a mixture of uses to include office, residential, retail, hotel and other uses with appropriate open space and recreational amenities to serve the project users and residents of the city. A CDD zone is intended to encourage land assemblage and/or cooperation and joint planning where there are multiple owners in the CDD zoned area. A review process is established to ensure

that such developments exhibit a proper integration of uses, the highest quality of urban and architectural design and harmony with the surrounding areas of the city.

5-602 *Coordinated development districts created, consistency with master plan, required approvals.*

(A) The CDD districts, as shown on Table 1, are as follows:

DD o.	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum F.A.R. and/or development levels	Maximum Height	Uses
)	Potomac Yard/Greens	The RB zone regulations shall apply to the area south of the Monroe Avenue Bridge and east of the Metro Tracks, the CSL zone regulations shall apply on the first 250 feet east of Route 1 and the I zone regulations shall apply on the remainder of the site	Up to 3,750,000 square feet of office space Up to 625 hotel rooms Up to 425,000 square feet of retail space Up to 4,500 residential units	Along Route 1 - up to 50 feet except for 1-2 buildings at Four Mile Run may rise to 77 feet In the Commercial core around the Metro Station - up to 110 feet for 3 to 4 buildings, with the rest of the buildings showing a substantial variation in height below 110 feet In the interior of the site designated for Residential - 77 feet provided that a predominant number of the buildings rise no higher than 50 feet South of the Monroe Street Bridge - predominantly 45 feet, with a few buildings allowed up to 77 feet East of the Metro tracts - up to 45 feet within 500 feet of the GWMP, to 77 feet outside of the 500 foot line and within 1,500 feet to the Metro station, 50 feet elsewhere	Predominantly residential with a mix of land uses to include office, retail and service, hotel, parks and open spaces, and community facilities

CDD No.	CDD Name	Without a CDD Special Use Permit	With a CDD Special Use Permit		
			Maximum F.A.R. and/or development levels	Maximum Height	Uses
6	Arlandria Center/Berkey Photo	CG zone regulations apply		-	Retail, office residential
7	Route 1 Properties	RB zone regulations apply along Reed Avenue, the RC zone regulations apply along Commonwealth Avenue to a depth of 100 feet and the OC zone regulations apply on the remainder of the site except that: - heights in the area along Commonwealth Avenue shall not exceed 45 feet			Mix of uses including office, retail residential hotel and open space
8	Trade Center	CG zone regulations apply			Mix of retail and residential uses with limited office
9	Cameron Station	R-8 zone regulations apply	Up to 1,910 residential units on 70 acres Up to 80,000 square feet of retail space, 300,000 square feet of office space on 16 acres	45 feet along Duke Street and First Street, to 55 feet at the center of the area, and to 77 feet along the railroad tracks, with a limited number of buildings to 120 feet along the railroad tracks	Residential, office, retail, open space

(B) Additional districts may be created from time to time, by designation in the city's master plan and approval of a rezoning application according to the provisions of sections 11-800 and 11-900.

(C) All proposed development within a CDD shall be consistent with the guidelines for the particular district expressed in the city's master plan, as the same may be amended from time to time.

(D) All proposed development within a CDD shall be subject to the procedures for review and approval set forth in this section 5-600. Except as provided in section 5-608, any proposed development within a CDD constitutes a special use for which a special use permit is required pursuant to this section 5-600 and section 11-500. In case of a conflict between the special use permit provisions of this section 5-600 and those of section 11-500, this section 5-600 shall control.

5-603 Approval process generally.

(A) All proposed developments shall require review and approval in the following manner.

(1) A conceptual design plan shall be submitted for the entire district. Such plan shall be considered by the planning commission and a recommendation thereon made to the city council. Approval of such plan by the city council shall authorize the submission of a preliminary development plan in substantial conformity with the approved conceptual design plan, but shall not confer any right or entitlement to approvals thereof, to otherwise proceed with development, or to the continued application of the law existing at the time of conceptual design plan approval.

(2) A preliminary development plan shall be submitted for the entire district, unless permission to proceed by sections of the district is given by the city council in the conceptual design plan approval, in which case a preliminary development plan shall be submitted for one or more approved sections of the district. Such plan shall be considered by the planning commission, and a recommendation made thereon to the city council. Approval of such plan by the city council shall constitute approval of a special use permit and preliminary site plan for the development and shall confer the right and obligation to proceed with development exclusively in accord with such approval and not otherwise, subject to such limitations and exceptions as the approval may

provide, subject to approval of one or more final development plans as provided below, and subject to any other permits or approvals required by law.

(3) A final development plan shall be submitted in accord with the approved preliminary development plan. Such plan shall be considered and approved by the director, subject to appeal to city council. Approval of such plan shall constitute approval of a final site plan for the development.

(B) An applicant may, if desired, submit a conceptual design plan and a preliminary development plan for simultaneous consideration and approval.

(C) No fewer than 90 days prior to submitting an application for approval of a conceptual design plan or a combined conceptual design plan and preliminary development plan, each applicant shall meet with the director and the director of transportation and environmental services and discuss such applicant's intentions with respect to a proposed development and the requirements of this section 5-600. No matters discussed at such meeting shall be binding on either the applicant or the city. The purpose of the preapplication conference is to provide staff input in the formative stages of the development project.

5-604 *Conceptual design plan approval.*

(A) The application for conceptual design plan approval shall be submitted, on such forms as the director may prescribe, by the owner, developer, contract purchaser, lessee or other party having a legal interest in the subject property. It shall include a clear and concise statement identifying the applicant and, if different, the owner of the property, including the name and address of each person or entity owning an interest in the applicant or owner and the extent of such ownership interest unless any of such entities is a corporation, in which case only those persons owning an interest in excess of ten percent in such corporation need be identified by name, address and extent of interest. For purposes of this section 5-604(A), the term ownership interest shall include any legal or equitable interest held at the time of the application in the property which is the subject of the application.

(B) Thirty-five copies of the application shall be submitted. All maps or plans shall be presented on sheets having a size of 24 inches by 36 inches.

(C) The application shall include the following information and materials:

(1) A vicinity map at a scale of not less than one inch equals 2,000 feet.

(2) A map or plan delineating the general topography of the district, and the general location of scenic areas or natural features, and a statement describing to what extent such areas or features will be preserved or protected, and landscape concepts.

(3) A statement describing the project in narrative form and describing the relationship of the proposed development to the master plan guidelines for the district.

(4) A general description of how adjacent and neighboring properties will be protected from any adverse effects prompted by the proposed development.

(5) A statement setting forth the maximum height of buildings to be constructed.

(6) A statement setting forth the maximum overall gross floor area and floor area ratio proposed, and the maximum gross floor area and floor area ratio proposed for each use in the proposed development.

(7) A statement setting forth the maximum number of dwelling units proposed, and an approximate breakdown of units by type and size.

(8) A statement setting forth the maximum number of parking spaces, and the general location and character, whether surface or structured, thereof.

(9) A statement identifying those special amenities proposed for the development.

(10) A statement setting forth any proposed interim uses of the site or portion thereof, the proposed development schedule and phases for development, and, if applicable, requesting the division of the district into sections for the purpose of subsequent submissions under this section 5-600.

(11) A statement of the improvements, public or private, on or off site, proposed for construction or dedication, and an estimate of the timing of providing such improvements.

(12) A conceptual design plan, at a scale of not less than one inch equals 100 feet, showing the location and arrangement of all proposed uses, the proposed traffic circulation plan including

points of access, parking areas, major streets and major pedestrian, bike, or other recreational paths, all proposed major open space and landscaped areas, and the approximate location of all proposed community and public facilities.

(13) Such additional information as the director may require, or the applicant may desire to submit, in order to facilitate review and consideration of the plan.

(D) Upon determination by the director that the application is complete, the application shall be submitted for comment and review to appropriate city departments and agencies. Upon completion of such administrative review, the director shall prepare a report for the planning commission and a recommendation to approve, approve with modifications, or disapprove the application, and shall submit the application to the planning commission.

(E) The planning commission shall promptly consider the application in accordance with the provisions of this section 5-600, and shall hold a public hearing thereon.

(F) Subsequent to the public hearing, the planning commission shall forward the application to the city council, together with its recommendations thereon.

(G) The city council shall consider the application in accordance with the provisions of this section 5-600, and shall hold a public hearing thereon. The city council shall by written resolution approve, approve with modifications or disapprove the application. In approving an application, the council may establish such conditions and requirements as shall assure compliance with the provisions of this section 5-600, and of any other requirements of applicable law.

(H) No application shall be approved unless the proposed development satisfies the following standards:

(1) The proposed development shall substantially conform to the city's master plan with respect to the general type, character, intensity and location of uses, as reflected in the CDD guidelines of the applicable area plan.

(2) The proposed development shall preserve and protect to the extent possible all scenic assets and natural features of the land.

(3) The proposed development shall be designed to mitigate substantial adverse impacts to the use and value of surrounding lands.

(4) The proposed development shall be designed in accordance with public facilities, services, transportation systems and utilities which are adequate for the development proposed, and which are available, or reasonably probable of achievement, prior to use and occupancy of the development.

(5) The proposed development shall be designed to provide adequate recreational amenities and, if appropriate to the site, a comprehensive system of pedestrian, bicycle or other recreational paths which shall be carefully coordinated with the provision of open spaces, public facilities, vehicular access routes and mass transportation facilities.

(6) The proposed development shall provide a substantial amount of residential units, including an affordable housing component.

(I) Once a conceptual design plan has been approved, and there is cause for substantial amendment thereto or to any portion thereof, such amendment shall be processed as a new submission: provided, however, that the director may waive any application requirement of section 5-604(C) if such requirement is not necessary for adequate review of the proposed amendment.

(J) No preliminary development plan shall be submitted later than two years from the date of city council approval of the conceptual design plan on which the preliminary development plan is based unless, as part of the approval under this section 5-604, a different time period is specified consistent with an overall schedule and phasing for development.

5-605 Preliminary development plan approval.

(A) The application for preliminary development plan approval shall be submitted, on such forms as the director may prescribe, by the owner, developer, contract purchaser, lessee or other party having a legal interest in the subject property. It shall include a clear and concise statement identifying the applicant and, if different, the owner of the property, including the name and address of each person or entity owning an interest in the applicant or owner and the extent of such ownership interest unless any of such entities is a corporation, in which case only those persons owning an interest in excess of ten percent in such corporation need be iden-

tified by name, address and extent of interest. For purposes of this section 5-605(A), the term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

(B) Thirty-five copies of the application shall be submitted. All maps, plats or plans shall be presented on sheets having a size of 24 inches by 36 inches.

(C) An application may be submitted for the entire district or for such portions as have been approved for phasing in the conceptual design plan approval.

(D) The application shall include the following information and materials:

(1) A preliminary site plan as specified in section 11-406.

(2) A statement of the architectural concepts and design guidelines of all proposed buildings, including the maximum bulk thereof, a model of the proposed development and surrounding lands, and, if available, schematic architectural sketches.

(3) A statement of the specific uses, and the floor area ratio or dwelling unit per acre density thereof, for each proposed building.

(4) Such additional materials, as the director may require, or the applicant may desire to submit, in order to facilitate review and consideration of the plan.

(E) Upon determination by the director that the application is complete, the application shall be submitted for comment and review to appropriate city departments and agencies. Upon completion of such administrative review the director shall prepare a report for the planning commission and a recommendation to approve, approve with modifications, or disapprove the application, and shall submit the application to the planning commission.

(F) The planning commission shall promptly consider the application in accordance with the provisions of this section 5-600, and shall hold a public hearing thereon.

(G) Subsequent to the public hearing, the planning commission shall forward the application to the city council, together with its recommendations thereon.

(H) The city council shall consider the application in accordance with the provisions of this section 5-600, and shall hold a public hearing thereon. The city council shall by written resolution approve,

approve with modifications or disapprove the application. In approving an application, the council may establish such conditions and requirements as shall assure compliance with the provisions of this section 5-600, and of any other requirements of applicable law.

(I) Notwithstanding any contrary provisions of section 11-400, the preliminary site plan shall be reviewed and considered, and approved, approved with modifications or disapproved as provided in this section 5-600.

(J) No application shall be approved unless the proposed development satisfies the following standards:

(1) The preliminary development plan demonstrates that the proposed development is in substantial conformity with the requirements and purpose of the approved conceptual design plan; and

(2) The preliminary development plan demonstrates that the proposed development, when constructed, will satisfy the criteria listed in section 5-604(H) for approval of a conceptual development plan, and section 11-410 for approval of a preliminary site plan.

(K) Once a preliminary development plan has been approved, and there is cause for substantial amendment thereto or to any portion thereof, such amendment shall be processed as a new submission; provided however that the director may waive any application requirement if any such requirement is not necessary for adequate review of the proposed amendment.

(L) The approval of the preliminary development plan shall be valid for the period specified for preliminary site plans by section 11-418 of this ordinance, and otherwise subject to the provisions of that section, except that the period shall run from, and any extension shall be granted by, city council action.

5-606 *Final development plan approval.*

(A) The application shall be submitted, on such forms as the director may prescribe, by the owner, developer, contract purchaser, lessee or other party having a legal interest in the subject property. It shall include a clear and concise statement identifying the applicant and, if different, the owner of the property, including the

name and address of such person or entity owning an interest in the applicant or owner and the extent of such ownership interest unless any of such entities is a corporation, in which case only those persons owning an interest in excess of ten percent in such corporation need be identified by name, address and extent of interest. For purposes of this section 5-606(A), the term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

(B) Thirty-five copies of the application shall be submitted. All maps, plats or plans shall be submitted on sheets having a size of 24 inches by 36 inches. A final development plan shall be submitted for the entire district, or for such portions thereof as approved in the preliminary development plan.

(C) The application shall include the following information and materials:

(1) A final site plan as specified in section 11-409(D).

(2) Complete architectural elevations of each proposed building or structure.

(3) Such additional information as the director may require, or the applicant may desire to submit, in order to facilitate review and consideration of the plan.

(D) Upon determination by the director that the application is complete, the application shall be submitted for comment and review to appropriate city departments and agencies. The director shall also cause a notice of consideration of the application to be given in the manner provided in section 11-300, such notice to state that the application is available for public review and comment. The director shall receive comments for a period of 30 days.

(E) Promptly after the close of the comment period, the director shall consider the final development plan and shall determine if said plan complies with all prior approvals under this section 5-600 and all other applicable provisions of law. Upon the determination that the final development plan does comply, the director shall approve the plan. Upon the determination that the plan does not comply, the director shall disapprove same, stating his reasons therefor, in which event the applicant shall be afforded reasonable opportunity to amend the plan.

(F) The director shall certify his determination on the plan to the city council. Within 14 days thereafter, any person aggrieved may appeal the director's determination to the city council, by filing a

written petition, setting forth the reasons for appeal, with the city clerk, and paying a filing fee in the amount of $250.00. The basis for the appeal shall be that the final development plan is or is not in substantial conformity with all prior approvals. City council shall hold a public hearing on the appeal and may affirm, reverse or modify the determination of the director.

(G) Once a final development plan has been approved, and there is cause for amendment of the same, such amendment shall be processed as follows:

(1) Upon a determination by the director that the proposed amendment will result in a final development plan which is still in accordance with the prior conceptual design plan and preliminary development plan approvals, then such amendment will be processed in accordance with the provisions of this section 5-606.

(2) Upon a determination by the director that the proposed amendment will cause the final development plan to be not in accordance with the prior conceptual design plan and preliminary development plan approvals, then the procedures for amendment of such prior approvals, either or both as the case may be, shall be followed, in addition to the procedures of this section 5-606.

(H) The approval of a final development plan shall be valid for the period specified for site plans by section 11-418 and otherwise subject to the provisions of that section.

5-607 *Special procedures where district not in common ownership or control.*

(A) If any district on June 24, 1992 is not in common ownership or control, or thereafter becomes not in common ownership or control by virtue of any involuntary transfer or sale, the owner of record of a portion of the district may apply for approval under this section 5-600, in conformity with the master plan guidelines for the district pertaining to the entire portion of the district under the control of such owner, notwithstanding that the application pertains only to such portion of the district. Such application shall consist of a certification which demonstrates to the director's satisfaction and on such forms as the director may provide that such owner has diligently attempted, without success, to bring about a joint application for the entire district and that

such lack of success is not caused in whole or in part by the applicant.

(B) If any district in common ownership or control on June 24, 1992 thereafter ceases to be in common ownership and control by virtue of any transfer or sale other than an involuntary transfer or sale, the owner of record of a portion of the district may file with the city clerk a petition, under oath, stating facts sufficient to show that he is entitled to relief under this section 5-607(B).

(1) Such petition shall include a specific description of the relief sought and, in particular, of the requirements of this section 5-600 from which an exemption is requested. The fee for filing such petition shall be $150.00, and such fee shall be in addition to all other fees required by law.

(2) In order to obtain relief under this section 5-607(B), the petitioner shall have the burden of showing by clear and convincing evidence that the strict application of the requirements of this section 5-600 to the parcel which is the subject of the petition will result in extraordinary hardship, approaching confiscation, of a nature which is not self-induced, which is unique to the petitioner and which is not shared generally by those persons subject to the requirements of this section 5-600.

(3) The director shall review the petition and shall forward his recommendations thereon to city council. The city manager shall schedule a public hearing on the petition before city council within 45 days of the filing of the petition. Notice of such hearing shall be given pursuant to section 11-300 of this ordinance.

(4) City council may grant, in whole or in part, the exemption from the requirements of this section 5-600 sought by the petitioner if it determines, on specific written findings of fact, that the strict application of such requirements to petitioner's parcel will result in extraordinary hardship, approaching confiscation, of a nature which is not self-induced, which is unique to the petitioner and which is not shared generally by those persons subject to the requirements of this section 5-600.

(5) In the event that city council determines to grant petitioner an exemption, it shall issue an appropriate order for relief, describing the requirements of this section 5-600 from which

petitioner shall be partially or fully exempt. Such order shall provide the minimum relief necessary to alleviate the hardship proved by petitioner. In all but the most extraordinary circumstances, the relief awarded shall not excuse compliance with the master plan guidelines applicable to the district, in order to assure that the entire district, when developed, shall comply with the master plan guidelines.

(6) City council may include such terms and conditions in the order for relief as it deems necessary and desirable to protect the public health, safety and general welfare and to assure that the parcel will be developed in harmony with the intended spirit and purpose of this section 5-600.

(C) For the purpose of applying this section 5-607, the following CDD districts shall be deemed to be in common ownership or control on June 24, 1992: Duke Street, Cameron Center, Winkler Tract, Stone Tract, Trade Center and Cameron Station; the following CDD districts shall be deemed to be not in common ownership or control on such date: Eisenhower Avenue, Arlandria Center/Berkey Photo, Route 1 Properties, and Potomac Yard/Greens.

5-608 *Alternative development permitted.* Notwithstanding the provisions of sections 5-602 and 5-603, the land in a CDD district may be used and developed pursuant to the density, height, use and other applicable zone regulations provided for use and development within each district, without CDD special use permit approval, as shown in Table 1.

5-609 *Relationship with other provisions of law.* The provisions contained in this section 5-600 shall be considered separate from, supplemental to and additional to the provisions contained elsewhere in this ordinance or other city ordinances. Nothing contained in this section 5-600 shall excuse any person from compliance with all other applicable provisions of this ordinance. Nor shall compliance with any other provisions of this ordinance excuse any person from compliance with the provisions of this section 5-600.
(Ord. No. 3604, § 1, 12-12-92; Ord. No. 3643, § 1, 6-12-93; Ord. No. 3699, § 1, 1-22-94; Ord. No. 3706, § 1, 2-12-94)

Attachment E

Arlington County General Land Use Plan

Section 29 "M-1" Light Industrial Districts zoning regulations

Background information on land use alternatives for "South Tract" and summary reports on development plans.

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102480

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map w/text - General land use

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102480

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksville & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF Removal VOLUME 11

REPORT OR DOCUMENT TITLE Potomac Yard / Greens-
Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Maps & Illustrations w/ text
Special Planing

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

SECTION 29. "M-1" LIGHT INDUSTRIAL DISTRICTS

The following regulations shall apply in all "M-1" Districts:*

A. Uses Permitted.

1. All uses as permitted in "CM" Districts within or without a building or an enclosed area, except that:
   a. Public parking areas shall be as permitted and regulated in "CM" Districts; and
   b. Dwellings are prohibited, except as permitted in "CM" Districts.
2. Railroad lines and related accessory activities.
3. Publicly operated facilities for the processing, treatment, or reduction of refuse material or water-carried waste.
4. Motor vehicle storage lots and towing services, provided:
   a. That such area is located and developed as required in Section 33; and
   b. That any incidental repair of automobiles or trailers shall be conducted and confined wholly within a building.
5. Conditional uses: The following uses may also be permitted subject to securing a use permit as provided for in Section 36, subsection G.
   a. Concrete batching operations and related accessory activities.
6. Uses customarily incidental to any of the above uses and accessory buildings when located on the same lot.
7. Automobile parking space to be provided as required in Section 33.
8. Loading space to be provided as required in Section 33.

(1-5-80; Ord. No. 84-37, 11-17-84; Ord. No. 92-35, 8-8-92)

B. Height Limit.

Same as specified in "C-3" Districts.

C. Floor Area Requirements.

The ratio of the gross floor area of all structures erected on an "M-1" site to the total area of the site shall not exceed a total of 1.5 to 1.

(7-13-74)

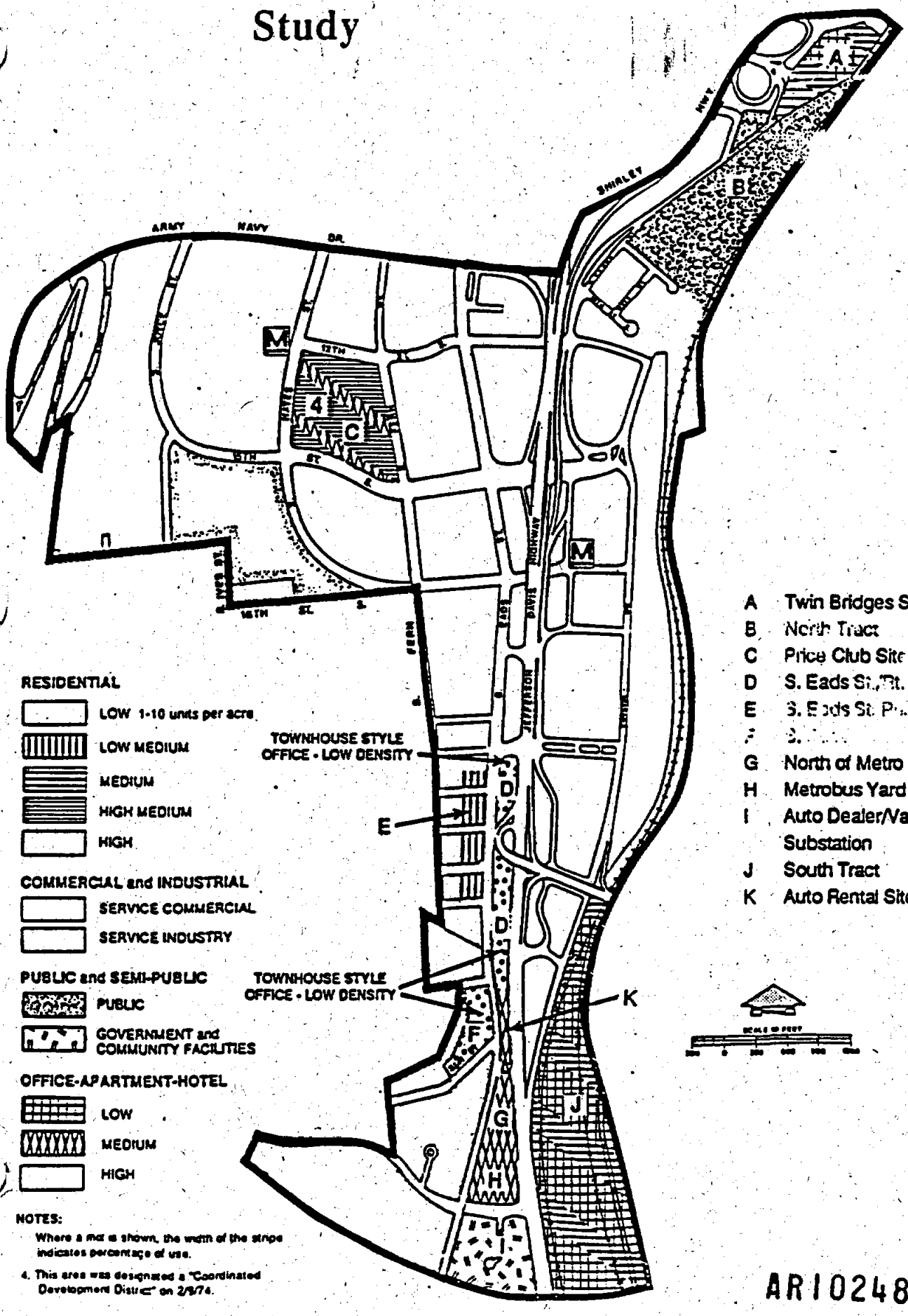
*Note—For supplemental regulations, see Section 31.

LAND USE ALTERNATIVES

	Area	Alternative 1	Alternative 2	Alternative 3
A	Twin Bridges	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3
B	North Tract	"Public"	"Public"	"Public"
C	Price CLub Site	Striped "High Med." Res. 3/4 "Medium" O–A–H 1/4	"Medium" O–A–H	Striped "High Med." Res. 3/4 "Medium" O–A–H 1/4
D	Between S. Eads St. and Route 1	Townhouse style office Low Density	Townhouse style office Low Density	NO CHANGE
E	S. Eads St. Residential Area	"Low Medium" Residential	"Low" Residential	Townhouse style office – Low Density
F	NW Corner of S. Eads St./S. 31st St.	Townhouse style office – Low Density	Townhouse style office – Low Density	Townhouse style office – Low Density
G	North of Metro Yard,	"Medium" O–A–H	"Medium" O–A–H	"Medium" O–A–H
H	Metrobus Yard (north of Glebe)	"Medium" O–A–H	"Medium" O–A–H	Govt. & Community Facilities
I	Auto Dealer/Va. Power Substation block	Govt. & Community Facilities	"Medium" O–A–H	Govt. & Community Facilities
J	South Tract	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3	Striped "Low" O–A–H 2/3 "Medium" Residential 1/3
K	Auto Rental Sites	"Medium" O–A–H	"Medium" O–A–H	"Medium" O–A–H

Alternative 1

Jefferson Davis Corridor Study



RESIDENTIAL
- LOW 1-10 units per acre
- LOW MEDIUM
- MEDIUM
- HIGH MEDIUM
- HIGH

COMMERCIAL and INDUSTRIAL
- SERVICE COMMERCIAL
- SERVICE INDUSTRY

PUBLIC and SEMI-PUBLIC
- PUBLIC
- GOVERNMENT and COMMUNITY FACILITIES

OFFICE-APARTMENT-HOTEL
- LOW
- MEDIUM
- HIGH

NOTES:

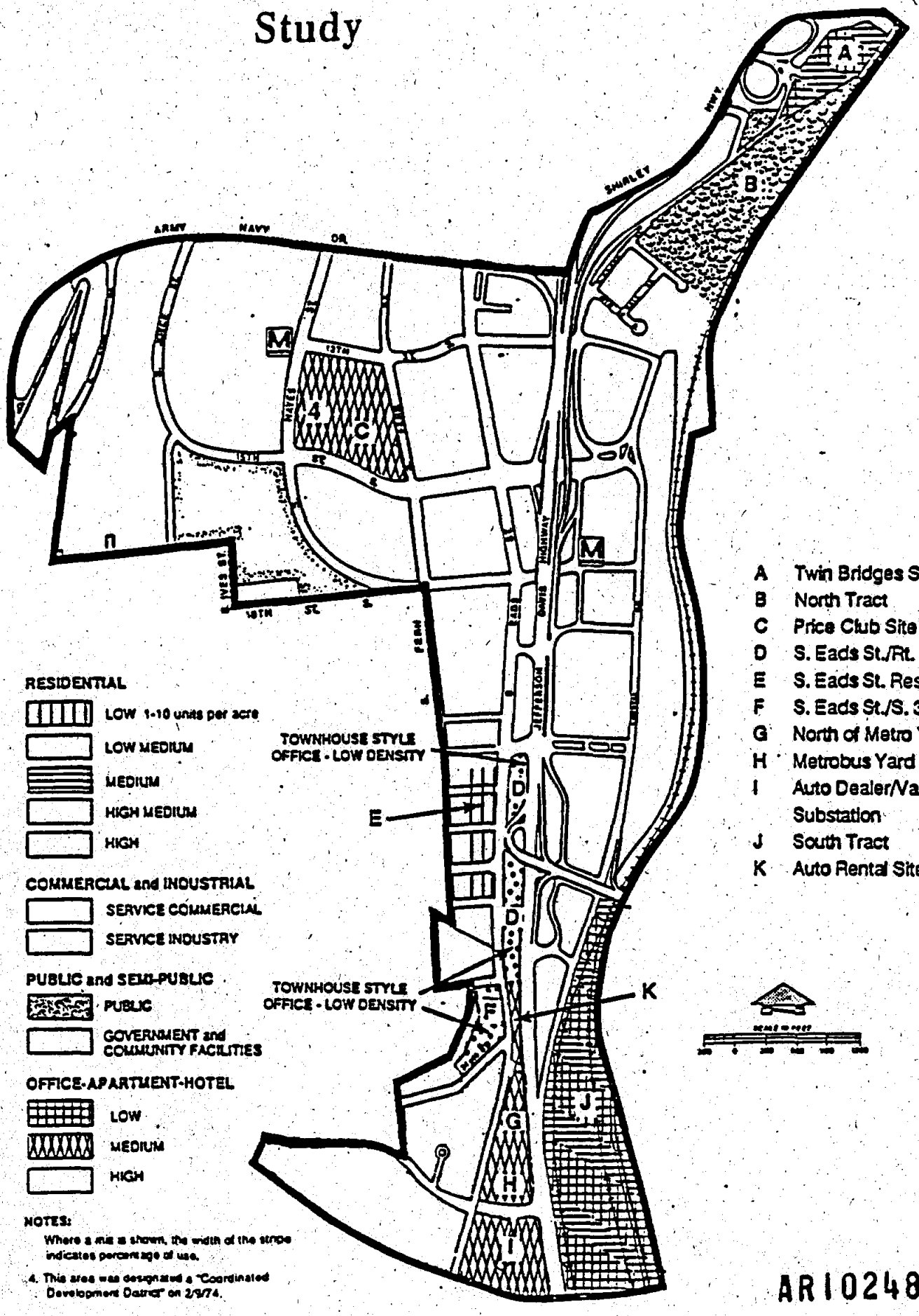
Where a mix is shown, the width of the stripe indicates percentage of use.

4. This area was designated a "Coordinated Development District" on 2/6/74.

- A Twin Bridges Site
- B North Tract
- C Price Club Site
- D S. Eads St., Pt. I
- E S. Eads St. Pt. II
- F S. [illegible]
- G North of Metro Yard
- H Metrobus Yard
- I Auto Dealer/Va. Power Substation
- J South Tract
- K Auto Rental Sites

Alternative 2

Jefferson Davis Corridor Study



RESIDENTIAL

- LOW 1-10 units per acre
- LOW MEDIUM
- MEDIUM
- HIGH MEDIUM
- HIGH

COMMERCIAL and INDUSTRIAL

- SERVICE COMMERCIAL
- SERVICE INDUSTRY

PUBLIC and SEMI-PUBLIC

- PUBLIC
- GOVERNMENT and COMMUNITY FACILITIES

OFFICE-APARTMENT-HOTEL

- LOW
- MEDIUM
- HIGH

NOTES:

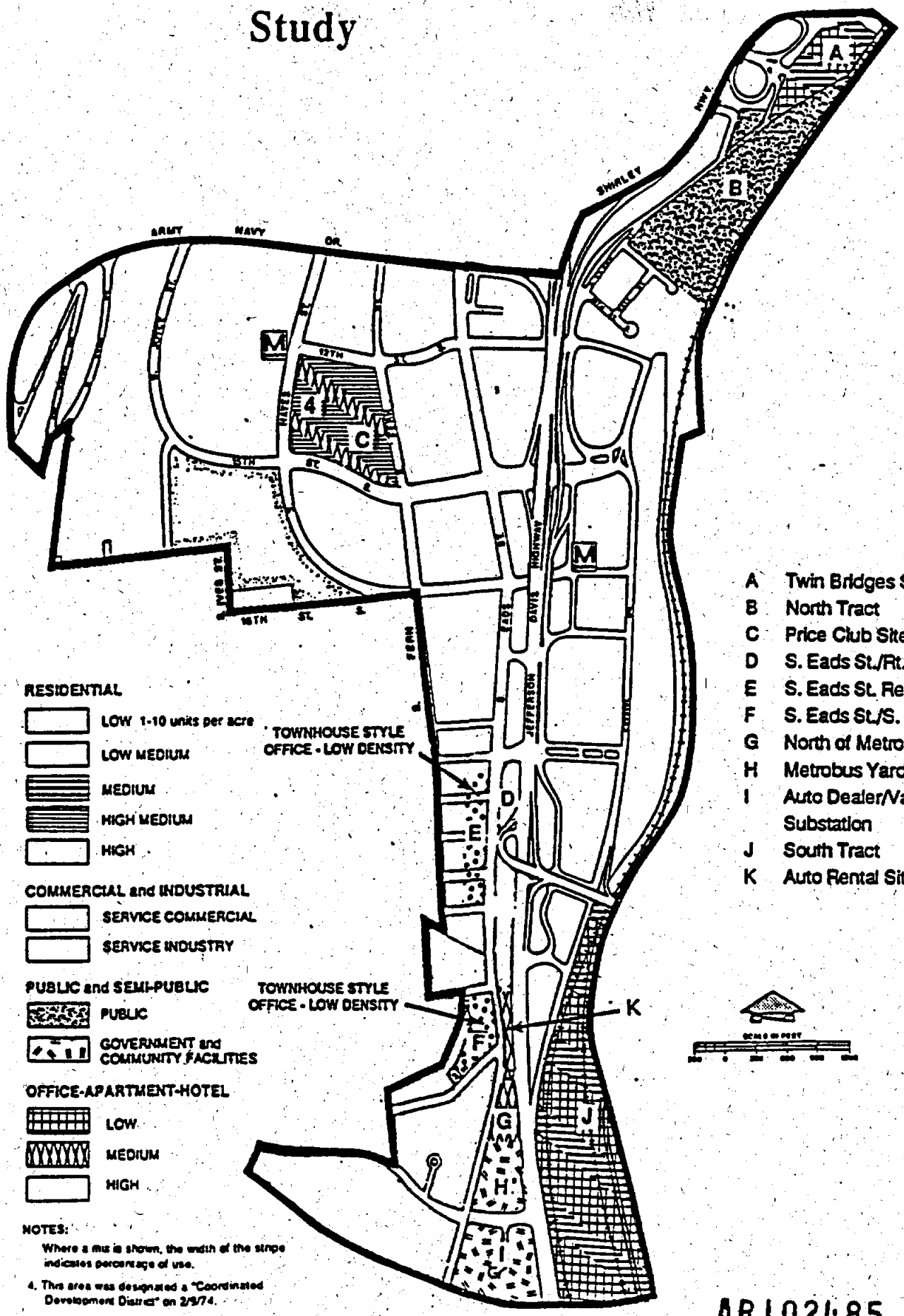
Where a mix is shown, the width of the stripe indicates percentage of use.

4. This area was designated a "Coordinated Development District" on 2/9/74.

- A Twin Bridges Site
- B North Tract
- C Price Club Site
- D S. Eads St./Rt. 1
- E S. Eads St. Resid.
- F S. Eads St./S. 31st St.
- G North of Metro Yard
- H Metrobus Yard
- I Auto Dealer/Va. Power. Substation
- J South Tract
- K Auto Rental Sites

Alternative 3

Jefferson Davis Corridor Study



RESIDENTIAL

- LOW 1-10 units per acre
- LOW MEDIUM
- MEDIUM
- HIGH MEDIUM
- HIGH

COMMERCIAL and INDUSTRIAL

- SERVICE COMMERCIAL
- SERVICE INDUSTRY

PUBLIC and SEMI-PUBLIC

- PUBLIC
- GOVERNMENT and COMMUNITY FACILITIES

OFFICE-APARTMENT-HOTEL

- LOW
- MEDIUM
- HIGH

NOTES:

Where a mix is shown, the width of the stripe indicates percentage of use.

4. This area was designated a "Coordinated Development District" on 2/9/74.

- A Twin Bridges Site
- B North Tract
- C Price Club Site
- D S. Eads St./Rt. 1
- E S. Eads St. Resid.
- F S. Eads St./S. 31st St.
- G North of Metro Yard
- H Metrobus Yard
- I Auto Dealer/Va. Power Substation
- J South Tract
- K Auto Rental Sites

JEFFERSON DAVIS CORRIDOR: LAND AREA BY ZONING DISTRICT

ZONING DISTRICT	Pentagon City Acres	Crystal City Acres	Corridor Total Acres	Corridor Percentage
S-3A (Special Districts)	10.52	27.96	38.48	6.22%
R-6 (One-Family Dwelling Districts)	0.00	0.15	0.15	0.02%
R-5 (one-Family, Restricted Two -Family Dwelling Districts)	1.10	7.13	8.23	1.33%
R2-7 (Two-Family and Town House Dwelling Districts)	5.46	1.51	6.97	1.13%
RA8-18 (Apartment Dwelling Districts)	0.00	4.13	4.13	0.67%
RA7-16 (Apartment Dwelling Districts)	8.01	0.00	8.01	1.30%
RA6-15 (Apartment Dwelling Districts)	45.06	17.71	62.77	10.15%
RA4.8 (Multiple Family Dwelling Districts)	0.00	19.31	19.31	3.12%
RA-H (Hotel Districts)	3.77	0.00	3.77	0.61%
RA-H-3.2 (Multiple-Family Dwelling and Hotel Districts)	0.00	23.60	23.60	3.82%
C-O (Commercial Office Building, Hotel and Multiple-Family Dwelling Districts)	0.03	83.32	83.35	13.48%
C-1-O (Limited Commercial-Professional Office Building Districts)	0.00	0.41	0.41	0.07%
C-O-1.5 (Commercial Office Building, Hotel and Apartment Districts)	0.00	69.68	69.68	11.27%
C-O-2.5 (Commercial Office Building, Hotel and Apartment Districts)	119.47	0.00	119.47	19.32%
C-2 (Service Commercial-Community Business Districts)	0.00	6.86	6.86	1.11%
C-M (Limited Industrial Districts)	0.00	6.15	6.15	0.99%
M-1 (Light Industrial Districts)	17.01	82.34	99.35	16.07%
P-S (Public Service Districts)	0.00	36.11	36.11	5.84%
M-2 (Service Industrial Districts)	0.00	21.54	21.54	3.48%
TOTAL	210.43	407.91	618.34	100.00%

SOURCE: Real Estate Assesment Records 9/2/93

LAND USE OF JEFFERSON DAVIS CORRIDOR

LAND USE	PENTAGON CITY Acres	CRYSTAL CITY Acres	CORRIDOR TOTAL Acres	CORRIDOR PERCENTAGE
Residential	77.87	69.77	147.64	23.88%
S-F detached	4.91	6.54	11.45	1.85%
S-F Other	8.68	0.31	8.99	1.45%
Two-Family	1.21	1.51	2.72	0.44%
Duplex		0.61	0.61	0.10%
Group Quarters	2.87		2.87	0.46%
Garden Apartments		2.10	2.10	0.34%
Mid-rise	9.57		9.57	1.55%
High-rise	50.63	58.70	109.33	17.68%
Hotel/Motel		24.22	24.22	3.92%
Office/ Commercial	38.02	115.90	153.92	24.89%
Manufacturing	16.80		16.80	2.72%
Trans/Commu/util	16.99	131.69	148.68	24.05%
Cult/Ent/Rec.	24.10	29.56	53.66	8.68%
Vacant/other	36.64	36.76	73.40	11.87%
TOTAL	210.42	407.90	618.32	100.00%

Source: Real Estate Assesment Records 9/2/93

JEFFERSON DAVIS CORRIDOR DEVELOPMENT HISTORY

Planning Efforts	Year	Major Development/ Site Plans
Arlington County first adopted the General Land Use Plan	1961	
	1958–1962	River House
	1963	Americana Motel
	1964	400 Army–Navy Dr. Office Parliament House
	1963–1965	Crystal House
	1965	Crystal Plaza Office Bldg. # 6
	1966	Crystal Plaza Office Bldg. #5 Crystal Plaza Apt. Bldg. #2
	1967	Crystal Plaza Office Bldg. #4 Crystal Plaza Apt. Bldg. #1
Jeff. Davis Corridor Policy Plan The major policy recommendation of this plan was to limit density to an FAR of 1.5 for office development	1968	Crystal Plaza Office Bldg. #3 Crystal Plaza Office Bldg. #1 Shoney's Inn Van Buren Bldg.
	1967–1968	Crystal Towers
	1969	Crystal Plaza Office Bldg. #2 Crystal Mall Office Bldg. #1 Crystal Mall Office Bldg. #2 Crystal Mall Office Bldg. #3 Crystal Mall Office Bldg. #4 Marriott Hotel Jefferson Plaza Holiday Inn
	1970	Jefferson Plaza Office Bldg. #1 Jefferson Plaza Office Bldg. #2 Polk Bldg.
	1971	Taylor Bldg.

Planning Efforts	Year	Major Development/ Site Plans
	1981	Bennington Apts. Crystal Gateway South Crystal Gateway Off. Bldg. #1 Cavendish (Condo Conv.)
	1982	MCI Office Bldg. #1 Hyatt Regency Marriott Hotel Airport Plaza Off. Bldg. #1 Crystal Gateway Off. Bldg. #2
	1983	Crystal Gateway Off. Bldg. #3 Sheraton Crystal City Hampton House
	1984	MCI #2 Airport Plaza II (2611 JD Hwy.)
	1985	Embassy Suites Crystal Park Condo #1 Crystal Park Office #1
	1986	Crystal Park Office #2
	1987	Crystal Gateway Off. Bldg. #4 Waterford House Marriott Hotel Gateway Place Crystal Gateway North Crystal Park Res. #2 Crystal Park Office #3
	1988	Lincoln Place Crystal Park Res #3 Crystal Park Office #4
	1989	Bella Vista I Crystal Park Res. #4 Crystal Park Office #5 Pentagon City Shopping Mall
	1990	Parc Vista Ritz–Carlton Eads Street Bldg. Crystal Station South Crystal Station North Hotel Compri

Crystal City/North Tract Study Issues Report Prepared to identify the major issues about future development of the North Tract.

1/31 JD Corridor Forum-Transportation

- Master plan
  - Streets: complete Pentagon City network
    Eads/Commonwealth connector
    Old JD/Crystal Drive extension
  - Bicycles: Twin Bridges GWMP crossing
    Four Mile I-395 crossing
    West of railroad connector

- Existing conditions
  - Metrorail boardings in Arlington stable overall since mid-80s - Pentagon City Growth
  - Steady growth in traffic across Glebe Road for about 20 years - mostly handled by limited access roads; W. Glebe, Mt. Vernon, U.S. 1 stable
  - HOV facility use (both I-395 and I-66) stable for last few years
  - 1989-90 intersection service levels in area mostly okay; exceptions are key arterials/approach routes:
    - I-395/S. Glebe area
    - Rt. 1 signals
    - Army-Navy Drive

MK-503

TABLE C-6
ARLINGTON STATION, AND SYSTEM METRORAIL
ENTRIES -- 1978, 1980, 1984, 1989, 1990, 1991, 1993

Metrorail Station	1978	1980	1984	1989	1990	1991	1993*
Arlington Cemetery	219	384	416	1,342	1,102	1,064	1,708
Ballston	---	9,352	10,060	8,902	9,531	9,482	10,011
Clarendon	---	1,900	2,254	2,818	3,078	2,964	2,537
Court House	---	2,825	3,113	4,977	5,310	5,561	5,868
Crystal City	5,110	7,553	9,779	13,633	13,349	13,335	11,485
East Falls Church	---	---	---	4,015	4,269	4,329	3,942
National Airport	3,305	5,088	4,402	5,186	5,657	4,548	4,865
Pentagon City	2,069	3,325	2,335	3,091	6,650	7,602	9,298
Pentagon	12,771	14,443	17,714	20,862	20,687	20,285	18,222
Rosslyn	11,729	12,752	11,633	14,615	13,585	13,637	14,402
Virginia Square	---	1,728	2,350	2,454	2,312	2,669	2,418
Metrorail Sub-Total	35,203	59,350	64,056	81,895	85,530	85,476	84,756
	18.9%	19.4%	19.5%	16.1%	16.5%	16.5%	15.8%
Metrorail System Total	186,026	305,416	327,975	509,394	519,465	517,792	536,420

* Average weekday entries for the period 7/1/93 to 7/31/93

Source:

1. Arlington County Master Transportation Plan, Adopted 1986. pp. c-28.
2. Informal Memorandum from Ed Tennyson, Pub. Wks. Pln'g Coordinator. 9 July 1991
   Subject: Arlington Transit Ridership
   (Sources for the memo: WMATA Fare Gate ENtry Counts, Arlington County Tranffic Engineering)
3. Memorandum from Harold W. Barley, Manager, Market Analysis, November 26, 1993.
   Subject: New Station / Mezzanine Ridership Report.
   Washington Metropolitan Area Transit Authority, 600 Fifth St., N.W. Washington, D.C. 20001

TABLE C–5
AVERAGE DAILY TRAFFIC AT GLEBE ROAD
1973, 1980, 1983, 1985, 1988, 1991, 1993

Road Name	1973	1980	1983	1985	1988	1991	1993
Williamsburg Boulevard (1)	5,550	6,220	6,230	6,418	6,418	6,895	6,675
Yorktown Boulevard (2)	4,600	4,310	4,530	3,504	3,917	4,158	3,919
Old Dominion Drive (Rt. 309) (3)	17,100	18,170	17,180	15,895	18,355	14,000	
Lee Highway (Rt. 29) (4)	24,100	23,790	24,980	23,325	22,635	28,000	
I–66:Custis Memorial Pkwy (5)	0	0	62,000	76,850	92,760	98,100	
16th Street North	6,700	8,040	6,890	7,515	7,463	7,752	8,034
Washington Blvd. (Rt. 237) (6)	14,700	9,320	11,500	15,325	15,170	30,000	
Wilson Boulevard	21,100	21,000	22,430	19,924	19,553	18,816	19,296
Carlin Springs Road	8,700	8,370	11,090	9,213	9,995	11,810	11,813
N. Henderson Road	5,000	5,620	6,070	6,169	6,168	6,911	6,815
N. Pershing Drive	11,200	10,790	9,860	10,537	10,716	8,307	9,705
Arlington Boulevard (Rt. 50) (7)	41,100	50,120	44,000	47,265	48,290	52,000	
Columbia Pike (Rt. 244) (8)	29,300	24,550	25,700	25,595	27,925	27,000	
16th Street South	5,000	2,600	2,580	2,581	2,604	2,593	N/A:92,93
S. Walter Reed Drive	8,200	13,500	13,340	13,898	14,517	14,530	15,999
I–395: Shirley Highway (9)	90,600	126,550	128,770	139,450	166,950	168,000	
West Glebe Road	16,200	15,850	18,450	20,394	22,039	20,474	N/A:92,93
Mount Vernon Avenue	20,500	18,300	18,590	19,312	18,488	18,850	N/A:92,93
Jefferson Davis Highway (Rt. 1)	33,500	31,240	32,960	35,745	34,360	36,000	
Goerge Washington Parkway	37,500	42,570	43,000	48,680	51,791	57,748	N/A:92,93
Total	400,650	440,910	510,150	547,595	600,112	631,944	
Percent Change	---	10.0%	15.7%	7.3%	9.6%	5.3%	
Percent Change per Year	---	1.4%	5.2%	3.7%	3.2%	1.8%	

Note:

(1) N/A for 1988 and 1990. Only WB counts for 85. Counts for 1986: 6418.

(2) The counts of Yorktown Blvd. for 1983 should be 3808 not 4530.

(3) The count location for 1991 is: Fairfax CL to Rt. 120,
The count location for the others are Rt. 120 to Rt. 3547.

(4)

	1980	1983	1985	1988	1990	1991
Rt. 237 – Rt. 120	23,220	24,500				
Rt. 120 – Rt. 309	23,785	24,975	23,325	22,635	22785	
Rt. 66 – Rt. 120			27,945			
Rt. 237 – Rt. 309						28000

(5) The counts for 1983 from Rt. 120 to Rt. 29 should be: 56,610 not 62,000.
The location for 1991 is from Rt. 29 to DC Line.

(6) Location for 1973, 1980, 1983, 1985, 1990: Rt. 120 to Rt. 29–211.
Location for 1988: Rt. 120 to Rt. 29–66; location for 1991: Rt. 29–66 to Rt. 120.

(7) Location for 1973 – 1990: Rt. 120 to Rt. 7; location for 1991: Fairfax CL to Rt. 120.

(8) I supposed the location is Rt. 120 to Rt. 7, but Rt. 27 to Rt. 120 was used in Master Plr

	1980	1983	1985	1988	1990	1991
Rt. 120 to Rt. 7	24,065	25,510	26,660	28460	28870	
Rt. 27 to Rt. 12	24,550	25,700	25,595	27925	28235	
Rt. 236 to Rt. 120						30000
Rt. 120 to Rt. 27						27000

(9) Location for 1973 – 1990: Rt. 7 to Rt. 120.
1991: 168,000 for SMCL Alex. to NCL Alex; 175,000 for NCL Alex to Rt. 1.

L:\PLANNING\MASTC5.WK3

TABLE 8
TREND OF PEAK PERIOD TRANSIT AND RIDERSHARING PASSENGERS IN HOV CORRIDORS ENTERING CENTRAL CITY

	I-395					I-66				
Year	HOV	Time Period	Metrobus	Auto Rideshare	Sum	HOV	Time Period	Metrorail	Metrobus	Auto Rideshare	Sum
1969	HOV-4	6:30-9:00	1,914								
1970 (1)	"	"	2,622								
1971	"	"	3,313	n/a							
1972 (2)	"	"	6,666								
1973	"	"	9,223								
1974 (3)	"	"	12,735	1,650	14,385						
1975 (4)	"	6:30-9:30	14,478	7,326	21,804						
1976	"	"	13,538	10,121	23,659						
1977	"	"	13,162	12,219	25,381						
1978	"	"	12,466	14,705	27,171						
1979	"	"	12,680	14,827	27,507						
1980	"	"	14216	18176	32,392						
1981 (5)	"	"	14,412	19,206	33,618	HOV-4	6:30-9:30	10,879			
1983 (6)	"	"	10,810	20,634	31,444	"	"	10,918	2,189	6,570	19,677
1985	"	6:00-9:00	9,846	19,127	28,973	HOV-3	7:00-9:00	11,841	1,340	14,513	27,694
1987 (7)	"	"	8,315	18,401	26,716	"	6:30-9:00	18,872	150	8,561	27,583
1990	HOV-3	"	8,051	23,696	31,747	"	"	21,509	112	8,017	29,638
1993	"	"	8,423	18,499	26,922	"	"	22,923	379	6,172	29,474

Note:
There were no groupriding rights-of way in the I-66 corridor prior to Metrorail opening to Ballston in late 1979.

TREND OF PEAK PERIOD "Hourly" TRANSIT AND RIDERSHARING PASSENGERS IN HOV CORRIDORS ENTERING CENTRAL CITY

	I-395					I-66				
Year	HOV	Time Period	Metrobus	Auto Rideshare	Sum	HOV	Time Period	Metrorail	Metrobus	Auto Rideshare	Sum
1969	HOV-4	6:30-9:00	766								
1970 (1)	"	"	1,049								
1971	"	"	1,325	n/a							
1972 (2)	"	"	2,666								
1973	"	"	3,689								
1974 (3)	"	"	5,094	660	5,754						
1975 (4)	"	6:30-9:30	4,826	2,442	7,268						
1976	"	"	4,513	3,374	7,886						
1977	"	"	4,387	4,073	8,460						
1978	"	"	4,155	4,902	9,057						
1979	"	"	4,227	4,942	9,169						
1980	"	"	4,739	6,059	10,797						
1981 (5)	"	"	4,804	6,402	11,206	HOV-4	6:30-9:30	3,626			
1983 (6)	"	"	3,603	6,878	10,481	"	"	3,639	730	2,190	6,559
1985	"	6:00-9:00	3,282	6,376	9,658	HOV-3	7:00-9:00	5,921	670	7,257	13,847
1987 (7)	"	"	2,772	6,134	8,905	"	6:30-9:00	7,549	60	3,424	11,033
1990	HOV-3	"	2,684	7,899	10,582	"	"	8,604	45	3,207	11,855
1993	"	"	2,808	6,166	8,974	"	"	9,169	152	2,469	11,790

Note:
There were no groupriding rights-of way in the I-66 corridor prior to Metrorail opening to Ballston in late 1979.

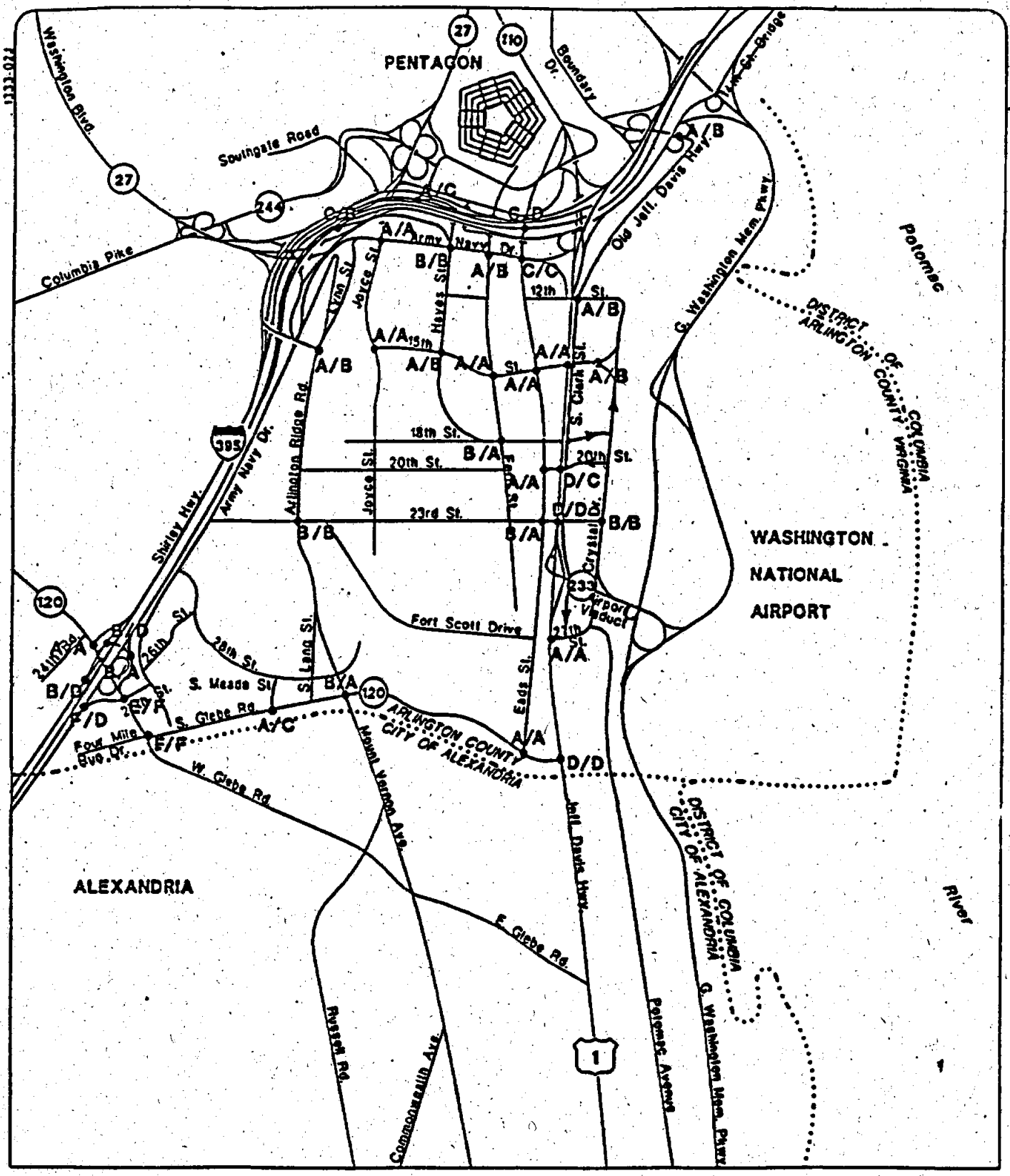


Figure 5
Existing Levels of Service

North
Schematic

TRANSPORTATION STUDY
THE JEFFERSON DAVIS CORRIDOR
ARLINGTON, VIRGINIA

Arlington County, Virginia
Barton Aschman Associates, Inc.
Gorove/Slade Associates, Inc.

Table 2
NUMBER OF INTERSECTIONS CURRENTLY OPERATING AT VARIOUS LEVELS OF SERVICE.

Level of Service	AM Peak Hour	PM Peak Hour
A	18	14
B	9	10
C	3	4
D	3	6
E	1	0
F	2	2
Total	36	36
PASS Number	33	34
FAIL Number	3	2

Figure 6
EXISTING LEVELS OF SERVICE

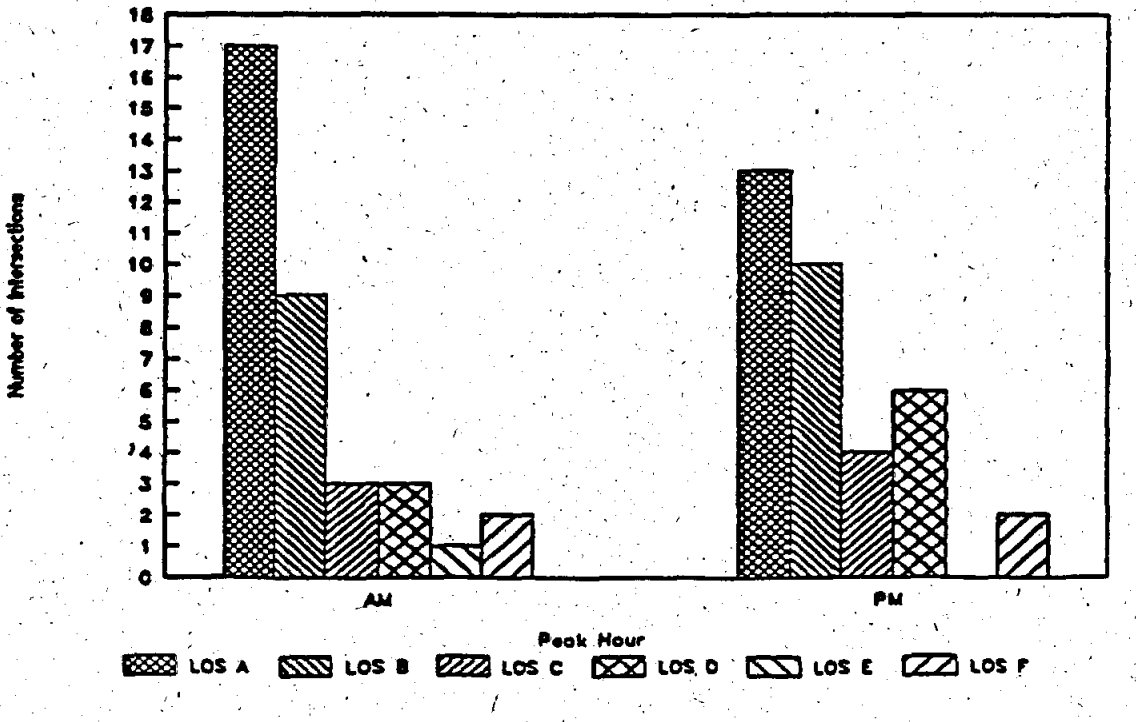


TABLE 1: Description of Levels of Service

Level of Service is the quality offered by a transportation mode. For streets, it is a a qualitative measure, and when followed by a letter, describes a category of conditions as follows:

Level of Service A: Free flow conditions; drivers free to change speeds and lanes at will and virtually never wait through a full signal cycle; volume at 60 percent or less of capacity.

Level of Service B: Stable flow with little delay; drivers have some difficulty changing lanes and maintaining desired speed; during about 10 percent of traffic signal phases, the phase ends before all vehicles approaching clear the intersection; volume at about 70 percent of capacity.

Level of Service C: Stable flow but with significant delay; drivers have difficulty changing lanes and speeds are reduced to about two-thirds that of free flow conditions; during about 30 percent of traffic signal phases, the phase ends before all vehicles approaching can clear the intersection; volume at about 80 percent of capacity.

Level of Service D: Stable flow with low speeds; speed is about one-half that under free flow conditions; during about 70 percent of traffic signal phase, not all vehicles approaching clear the intersection before the phases ends; volume is at about 90 percent of capacity.

Level of Service E: Unstable flow; volumes at or near capacity; speed variable and susceptible to drop into a forced flow condition; almost all traffic signal phases end with arriving vehicles not all able to clear the intersection.

Level of Service F: Forced flow; long backups at signalized intersections and from bottlenecks in controlled access facilities which operate in a stop-and-go pattern with volume below capacity; effective capacity reduced because of low speeds, and backups through other intersections.

Ranges of Critical Movements by Level of Service

Level of Service	Range of Critical Movements
A	less than 1000
B	1000 to 1150
C	1150 to 1300
D	1300 to 1450
E	1450 to 1600
F	greater than 1600

JEFFERSON DAVIS CORRIDOR PLAN
Community Forum III, May 12, 1994 ♦ Summary Report

Background

As directed by the County Board, staff is developing the Jefferson Davis (JD) Corridor Plan which would reevaluate existing land use designations and provide an urban design framework for the future development of the corridor, particularly for areas now designated for industrial uses. The last major land use study on the corridor was completed in 1977, and an update is needed to provide direction for future growth and redevelopment of the Corridor.

A series of community forums are being held as part of the planning process for the JD Corridor Plan. The public process will enable citizens to speak out about issues of concern and ideas for the future of the corridor. The results of the public forums will be used by both the Planning Commission and the County Staff as input for planning the future in the JD Corridor.

Community Forum Agenda

Introduction: Carrie Johnson, member of the Planning Commission and Chair of the Long Range Planning Subcommittee, gave the introduction and welcome to the forum. She stated that this meeting is the third of a series of forums being held about the future of the JD Corridor. These forums are a continuation of a planning process that was started in 1990. The purpose of tonight's meeting is to go over the concept plan of the JD Corridor, and to review three land use alternatives staff is presenting for specific areas within the corridor.

Update: Doug Woods, Planning Division, provided a brief update on the Alexandria 2020 development proposal on Slater's Lane. The project was heard by the Alexandria Planning Commission in early May, which voted to deny the project. It will now go before the Alexandria City Council on May 14.

Concept Plan: Doug Woods, from the Planning Division, displayed the concept plan for the Jefferson Davis Corridor. The concept plan covers the area from the 14th Street Bridge south to Four Mile Run, east to GW Parkway, and west to I-395 by Ridge Road, Fern Street, and Eads Street. The concept plan indicates areas of desired development such as office, residential, mixed use, low density commercial, etc. in a very general way. For example, the concept plan indicates that open space and recreational uses are desired for the North Tract by showing that area as a bubble of open space. The Twin Bridges tract is shown as mixed use development, as is the South Tract. The areas along Eads Street south of 23rd Street on the west side where there is now residential, is shown as a transitional area depicting townhouse style commercial. The areas on the east side of Eads is also shown as townhouse style commercial or high density office development.

Land Use Alternatives: Carmela Patrick, from the Planning Division, discussed the three land use alternatives. Each alternative was mounted and also shown on a slide, as well as available in a handout form.

Audience Comments: The audience was invited to view the mounted urban design analysis,

concept plan, and three alternatives, and comment on these items. They were asked what they liked and disliked about the concept plan, and which alternative was preferred. Comments were written down on a response form and turned in to staff. The following are some comments received:

What do you like most about the Concept Plan?

- It links both sides of the tracks
- Its emphasis on the gateways
- A lot of open space for recreation
- The transitions are well placed
- Pedestrian link to Gravelly Run
- That there is a plan
- Buffer of residential neighborhood west of Eads Street and south of 23rd Street.
- Agreement with the proposed land uses
- Generally very good; like concept of mixed uses and public use of North and South tracts and Twin Bridges site.
- Recreation space; open space should be a high priority throughout the study area

What do you like the least about the Concept Plan?

- Does not provide sufficient improvements in roads to accommodate anticipated higher volume of traffic and greater access and egress to and from area.
- Make adequate provision for "pedestrian" traffic in the central core and adjacent neighborhoods
- Important to protect lifestyle of the adjacent neighborhoods and traffic/parking in neighborhoods.
- The plan is so futuristic (e.g. Price Club site, Metro garage) that it is spooking some neighborhood residents. Most of us will never live long enough to see such change.
- The concept for parcels between Eads St. and Jefferson Davis really isn't suitable for uses other than what currently exists.
- Concept plan does not appear to provide for "Government and Community Facilities" on the "I" site (Va. Power substation block). Providing for the expansion of the water treatment plant is a good idea.
- Too much density. The developers of the Pentagon City Phased Development Site Plan (PDSP) developed all of the office space provided for in the plan and a minimal portion of the residential area. If you have mixed use (office/residential) the office space, even though present glut exists, will be developed first with no assurance that the residential will ever be developed. Reduced density throughout the corridor must be one of the goals, not the high density proposed.

Which Land Use Alternative do you prefer and why?

ALTERNATIVE 1:

→ I prefer Alternative 1, but believe that the percentages on either the Twin Bridges site or the South Tract should be reversed to 2/3 residential and 1/3 office. Both sites do not need to be that way, but one should be.

→ I do not favor as much high residential as Alternative 3 would have.

→ Provides for less impact on neighborhoods

→ I prefer Alternative 1 with the following changes: keep High Residential on the two "D" sites (area between S. Eads St. and Rt. 1) to provide for hotels and place residential townhouse on the "E" site as a transition to the residential neighborhood. This would be less politically sensitive than office-townhouse.

→ Prefer Alternative 1 because of provision for water treatment expansion on the "I" site (Va. Power substation block)

ALTERNATIVE 2:

→ Under Area E

→ Another look should be made of areas A, C, D, F, G, H, I, J, and K.

→ Prefer Alternative 2 to retain the residential character of the area. The other alternatives would provide for more density which would not assist in keeping down the existing overburdened traffic.

ALTERNATIVE 3:

→ There really isn't much difference between the three alternatives. It's the difference between tweedledee and tweedledum.

→ Prefer this because of better uses for areas D and E, especially E. Also, Government Facilities on areas H & I.

General Comments:

▸ The Price Club and stores like the Price Club are the wave of the future and will have a long life.

▸ Arlington does not have a golf course. Would it be possible to create at least a golf "driving range" here, or somewhere else in the County?

Next Steps: The next steps in the process is to use the feedback we received to review and amend the concept plan and land use alternatives, and then to prepare the illustrative plan for the JD Corridor. Staff is targeting September for the next community forum. An announcement will be sent to all those on the mailing list.

Any publications or handouts mentioned in this summary are available from the Planning Division. Please call Carmela Patrick or MaryAnne Field, Planning Division, CPHD, at 358-3525 with all requests.

JEFFERSON DAVIS CORRIDOR PLAN
Community Forum II, January 31, 1994 ♦ Summary Report

Background

As directed by the County Board, staff is developing the Jefferson Davis (JD) Corridor Plan which would reevaluate existing land use designations and provide an urban design framework for the future development of the corridor, particularly for areas now designated for industrial uses. The last major land use study on the corridor was completed in 1977, and an update is needed to provide direction for future growth and redevelopment of the Corridor.

A series of community forums are being held as part of the planning process for the JD Corridor Plan. The public process will enable citizens to speak out about issues of concern and ideas for the future of the corridor. The results of the public forums will be used by both the Planning Commission and the County Staff as input for planning the future in the JD Corridor.

Community Forum Agenda

Introduction: Carrie Johnson, member of the Planning Commission and the Long Range Planning Subcommittee, gave the introduction and welcome to the forum. She stated that this meeting is one of a series of forums being held about the future of the JD Corridor. These forums are a continuation of a planning process that was started in 1990. The purpose of tonight's meeting is to go over the land use analysis, transportation analysis, and urban design analysis of the JD Corridor, and to obtain community input.

Land Use Analysis Carmela Patrick, from the Planning Division (DCPHD), gave a presentation on existing land use conditions within the study area. The study area is made up of the Pentagon City Metro Station Area, Crystal City Metro Station Area, and the Water Pollution Control Plant. The area along Jefferson Davis Highway and a large portion of Pentagon City was developed as industrial uses until the 1960s. There are remnants of the industrial areas on the northern and southern ends of Jefferson Davis Highway, as well as on the former AT&T site on South Hayes St., now to be occupied by Price Club (phase I) and other retail uses (phase II). In 1961, the County Board adopted a General Land Use Plan (GLUP), and also in the early 1960s, adopted new commercial and office zoning districts to encourage development of underutilized or vacant land in the JD Corridor. The GLUP provides for defined areas of high density residential, industrial, recreational uses, and mixed uses (office, retail, residential). Mixed use development is concentrated east of Jefferson Davis Highway in Crystal City and close to the Metro station in Pentagon City, while lower density residential designations are located toward the west, closer to the established neighborhoods. In 1974, Pentagon City was designated a Coordinated Development District to encourage high density mixed use projects in this area. The Pentagon City Phased Development Site Plan (PDSP) was approved in 1976 for the blocks surrounding AT&T site. It provides for office, retail, and residential uses, open space, a nursing home, and a retirement home. The only portion of Pentagon City PDSP not built is the residential portion and hotel units. Existing open space in the JD Corridor consists of Virginia Highlands Park, Eads Park, Crystal Water Park, urban plaza space at Crystal Park, and nearby, Ft. Scott Park.

outlined the intersection service levels in the JD Corridor from the 1991 transportation study. In Pentagon City, the completion of 12th Street South between Eads and Fern Streets is planned. The plan to extend South Eads Street across Four Mile Run to Commonwealth Avenue is in the Master Plan but will probably not be realized. In 1985-86, there was some Arlington citizen support for the South Eads Street extension because it was seen as a relief for Arlington Ridge Rd. The plan still calls for extension of Crystal Drive north through the North Tract, although this will be considered in conjunction with the North Tract land use. As for the Bike Plan, that will be heard in front of the Planning Commission next month. There are three main changes: (1) a connection to riverfront trail system; (2) a pedestrian overpass/connection at Shirlington; (3) a connection along railway properties. Mr. Kellogg handed out tables of traffic statistics that portrayed ridership levels at the two Metro stations, average daily traffic at Glebe Road crossings that have increased in trips, Shirley Highway HOV ridership levels which have been stable, and a level of service map for the JD Corridor area from the 1991 study. There are three areas of concern: Glebe Rd./I-395, Rt. 1/23rd St. (not a lot of capacity), and Army-Navy Drive/I-395 exit into Pentagon. None of the "hot spots" are on the state six year plan for improvement. There is nothing programmed in the Master Plan (or planned) for the area along Rt. 1 or Glebe Road. A recommendation in the traffic study is to simplify intersections along Rt. 1; however, there is no money identified for this, and it's not in the master plan. The Arlington Trolley is operating on a limited basis, rush hour only. Charles E. Smith has a shuttle at lunch time. Mark was asked how the County promotes commuting by transit and other ways not using cars. He responded that the County funds in part the Ballston Transit Store and the Commuter Center, two operations that promote alternative means of transportation, and that through the site plan process, the County tries to decrease the amount of parking spaces, approve dense development adjacent to Metro stations, etc. Someone commented that the parking meters along South Hayes Street are encouraging people to drive and that efforts need to be coordinated.

Urban Design Analysis: Gabriela Acurio from the Planning Division (DCPHD) provided an urban design analysis of the Jefferson Davis Corridor. She presented a map of the JD Corridor that identified urban design features such as major entryways into the area, focal points, activity nodes, neighborhood parks, poor edge treatments (along the edge of the corridor and neighborhoods), noise areas, pedestrian/vehicular conflicts, and poor transitions between high density and low density areas. This map is available for review in the Planning Office.

Community Discussions: Participants were encouraged to ask questions and add comments to the items mentioned at the meeting. The comments related to future development in the JD Corridor and issues of immediate concern. The following is a summary of comments made by participants at the meeting:

- A landscaped median on Eads Street is needed. The painted median is not enough. (Note: Mark Kellogg stated that Neighborhood Conservation money may be available to provide planting for the median. However, due to the infrastructure located beneath Eads Street, there would need to be low shrubbery on the median; if tall trees were desired, this might be feasible if the street were narrowed instead of having a median)

JEFFERSON DAVIS CORRIDOR PLAN
Community Forum I, November 9, 1993 ♦ Summary Report

Background

As directed by the County Board, staff is developing the Jefferson Davis (JD) Corridor Plan which would reevaluate existing land use designations and provide an urban design framework for the future development of the corridor, particularly for areas now designated for industrial uses. The last major land use study on the corridor was completed in 1977, and an update is needed to provide direction for future growth and redevelopment of the Corridor.

The development of a JD Corridor Plan began with a series of citizen workshop meetings held in 1991 and 1992 to discuss planning issues involving the JD Corridor. These meetings were successful in eliciting comments from residents about their concerns related to planning and development in the Corridor. However, the JD Corridor Plan was put on hold until litigation involving the North Tract was resolved. Now that a settlement has been reached between the County, RF&P, and other parties, the efforts to complete the JDC Plan can resume.

A series of community forums have been planned to recommence the planning process for the JD Corridor Plan. The public process will enable citizens to speak out about issues of concern and ideas for the future of the corridor. The results of the public forums will be used by both the Planning Commission and the County Staff as input for planning the future in the JD Corridor.

Purpose

Members of the community in and around the Jefferson Davis Corridor attended a JD Corridor Community Forum on November 9, 1993 at Aurora Hills Recreation Center (see appendix A for a list of participants). This forum was sponsored by the Long Range Planning Subcommittee of the Planning Commission. The purpose of the forum was to provide an overview of the JD Corridor planning efforts made to date and the comments made at the previous forums held in 1990 and 1991. There was a time for community discussion and comment, and an explanation of the next steps we are taking in the JD Corridor planning process.

Community Forum Agenda

Introduction: Carrie Johnson, member of the Planning Commission and the Long Range Planning Subcommittee, gave the introduction and welcome to the forum. She stated that this meeting starts the resumption of a planning process that was started in 1990. The meeting started with an update by Arlington County staff of the Army Museum, Navy Move, Alexandria 2020, and the RF&P settlement.

Navy Move and Army Museum: Jim Snyder, Chief of Current Planning in the Planning Division (DCPHD), gave an update on the Navy Move and Army Museum. He is a member of the Crystal City Economic Task Force that has been formed to address the Navy Move issue.

The task force contains representatives from Fairfax County, D.C., Loudoun, and the State of Virginia. Their role is to plan strategy for adjusting the local economy due to the Navy move. The task force is working to improve General Services Administration (GSA) coordination and notification to the County. There have been three meetings so far, and discussion was on the topics of planning for retention of businesses and replacement of workers. Landowners such as Charles E. Smith are looking for ways to retain tenants. As for the Army Museum, the current effort has been stopped in Congress. Senator John Glenn raised opposition to the legislation drafted to allow the Army to make a land swap with Equitable, and the legislation was not reported out of committee.

Alexandria 2020: Tom Miller, from the Planning Division (DCPHD), provided an update on the Alexandria 2020 plans for the Alexandria portion of the Potomac Yards. The Alexandria Planning Commission has indefinitely deferred the site plan for Potomac Yard. The current issue under discussion is the parkway interchange proposed at Potomac Greens. Rep. Jim Moran was reported to have arranged a meeting with officials from Richmond, Fredericksburg & Potomac (RF&P) Railroad, National Park Service, and Alexandria to discuss access to the parkway. A participant questioned the validity of the existence of the City of Alexandria; he stated that Alexandria is a fictitious city with no legally recorded plat.

RF&P Settlement: Carmela Patrick, from the Planning Division (DCPHD), provided an update on the RF&P settlement. The County is involved in a lawsuit involving more than 40 parties over the environmental contamination of the Davis scrap yard site on the RF&P property on the North tract. A settlement was reached regarding the clean-up of the site which allows the County the opportunity to acquire approximately 25 acres of land for open space and recreational uses. A press release describing the details of the RF&P Settlement proposal was handed out (see appendix B). In September of this year, the settlement was nearly complete. At this time, the judge has signed the settlement agreement, and the County is waiting for the environmental consultant to submit the cleanup proposal to the state for approval. Once the proposal is submitted, it is expected to take six months to be reviewed. The lawsuit centered around who had the liability for the clean-up, and the settlement was an agreement reached by all parties that all would be responsible to pay for the clean-up. The county was one of many defendants named in this lawsuit.

Overview of Previous Forums: Carmela Patrick gave an overview of the comments heard at four previous forums held between fall of 1990 and spring 1991. A summary of the public comments and a history of planning efforts were passed out to the audience (see appendix C). The recurring themes heard among all the comments received were quality of life in the JD Corridor, active promotion and acquisition of open space, and concerns about transportation issues.

Transportation: Mark Kellogg, Chief of Planning in the Department of Public Works (DPW), discussed the transportation plans the County has for the area. He estimated that there are currently 140,000 to 150,000 people working in the JD Corridor. Washington, D.C. has 650,000 jobs and has been forecasting about 900,000 jobs by the year 2010, with this growth

level greater than the current employment level in all of Arlington. The key factor in how we cope with the traffic is how we use traffic demand management. One way to deal with traffic is to work with parking requirements; increase square footage that parking spaces are based on. The South Tract development was analyzed based on 4.2 million square feet of office, when it was being proposed as a Navy consolidation site. That is almost 50 percent more than a current concept for office in mixed use. A spine road on the South Tract and the Glebe Road underpass could provide adequate circulation for the development. Improvements to Rt. 1 are needed to simplify intersections at South 23rd St. and South 20th St. RF&P wants a feeder transit line along the edge of the railroad corridor on the South Tract to tie into the Virginia Railway Express (VRE) station in Crystal City, located to the north adjacent to Water Park and to the nearby Metrorail station.

In terms of bicycle trails, the connection to the George Washington Parkway located adjacent to Water Park on Crystal Drive is now open. There are a number of proposals currently being considered that are contained in the current Bikeway Plan. The plan goes to the Planning Commission public hearing on November 29 and to the County Board public hearing on December 11 for consideration. One of the recommendations is a better crossing at Shirley Highway by Four Mile Run.

Currently, Public Works is providing a striped median on Eads Street from S. 23rd St. to Fort Scott Drive, and striping for bicycle lanes. This was hoped to be completed in November.

Mark was asked if the transportation numbers he quoted, which are 30-40% greater than today's numbers, take into account the Clean Air Act. He responded that these increased numbers are tied into the Council of Governments (COG) development forecasts. The density of Alexandria RF&P site is also included in the transportation plans for the South Tract. Mark was also asked what assumptions were made about the GW Parkway in forecasts. He responded that an assumption was made that the Potomac Greens site will have access to the GW Parkway. It was found that the biggest number of vehicle trips on Rt. 1 were those starting outside of Arlington and ending outside of Arlington.

Community Discussions: Participants were encouraged to ask questions and add comments to the items mentioned at previous forums. The comments related to future development in the JD Corridor and issues of immediate concern. The following is a summary of comments made by participants at the meeting:

- Move the existing Metro bus yard (located at South Glebe Rd. and Rt.1) to the North Tract and make the bus yard open space as part of the trade off. This was suggested due to a concern about the pollution from bus fumes that the surrounding residential area experiences, especially in cold weather when the buses leave their engines on all night. Another source of pollution in this area is the Water Pollution Control Plant. It was stated that there is more fresh air and less residences on the North Tract, which makes it a good place for the bus yard. Open space is being located in the wrong place; there should be more open space at S. Glebe and S. Eads St.
- Build a velodrome on the North Tract for cyclists. The Mt. Vernon Bike Trail is

overused and has many speeding cyclists; a velodrome will give cyclists a place to ride at high speed.

- Will the County consider building a median on Eads St. instead of just painting one? A Neighborhood Conservation project is likely the best approach to getting this done.
- Is the County considering a suggestion made at an earlier forum to make S. Eads St. and Rt. 1 a one-way pair? (Note: S. Eads St. is a minor arterial (not a principal arterial as Rt. 1 is) and a one way pair with Rt. 1 is not being considered)
- While Ramp Metering and Incident Management can save time overall on I-395 and I-66, the state may have backed off due to unpopularity.
- Alexandria 2020 promised a second Metro Station on the South Tract; is that still planned? (Note: while a new metro station in Alexandria is being pursued actively, there has been no mention of one in Arlington since the very early concepts for 2020.)
- Why is the FAA Windshear Tower proposed to be located at S. 18th St. and Ives? Why not locate it next to a high building and not in the residential neighborhood? (Note: it was explained at the meeting that several towers were needed in strategic places to help record wind velocities for National Airport; the windshear tower cannot be located near other buildings.)
- There are other windshear towers located at the Pentagon; six towers total are in or located near the JD Corridor.
- Status of AT&T site: how much of the existing building would be used by the Price Club? (Note: 325,000 square feet of office/commercial is allowed on the AT&T site; Price Club will use existing building and is planning 6 different retail stores on the site.)
- What is the building under construction across from the Navy Annex on Columbia Pike? (Note: This building is for the County Residential Program Center.)
- More traffic control is needed especially at 15th St. and Hayes; there are problems with left turns there. DPW staff is looking at this in connection with the Price Club.
- Think about the crime and safety issues that will be associated with recreational uses on the North Tract. Safety and crime problems experienced at Haines Point are not wanted on the North Tract. Consider what kind of open space is wanted, and its appeal.
- Existing safety/crime problem in the Va. Highlands Park.
- Current parking problem at Va. Highlands park due to the use of the park; patrons take up street spaces, even if it is zoned residential parking.
- Plan sufficient parking for the North Tract recreational use.
- Allow parking starting at 4:30 or 5:00 p.m. with a parking hanger to accommodate softball teams playing at Va. Highlands park (esp. on Joyce St. near River House).
- Check the legality of Arlington and Alexandria.

Next Steps: Gabriela Acurio from the Planning Division (DCPHD) described the next steps in the planning process. The second community forum is scheduled for January, 1994, at which time staff will present the land use and urban design analyses and the Concept Plan for the JD Corridor. An announcement of the meeting and a summary of this forum will be sent to everyone on the mailing list. A third community forum is planned for March, 1994, at which time staff will present the draft JD Corridor Plan for comment from the community. Staff is

preparing to take the JD Corridor Plan to the County Board in May of 1994.

Wrap-up: Carrie Johnson concluded the community forum by thanking participants for attending and encouraged everyone to get the word out about the next meeting

APPENDIX A
COMMUNITY FORUM I - List of Participants

Michelle Bert
Nan Terpak
John O'Neill
Howard Schrier
Leroy Simpson
Bruce Jones
Denis O'Sullivan
Jon Kinney
John L. Gable
Sherman Pratt
Allen Muchnick
Fred Reis
J. P. Kyle
J. B. Fleury
Roberta Timberlake
David Stern
Carrie Johnson, Planning Commission
Judy Freshman, Planning Commission
Paul Michl, Planning Commission
Ted Saks, Planning Commission

Staff in Attendance:
From Planning Division, DCPHD:
Gabriela Acurio
Carmela G. Patrick
MaryAnne Field
Tom Miller
Jim Snyder

From Transportation Planning, DPW:
Mark Kellogg

JD Corridor Study
Summary of Community Forums 1990-91

WORKSHOP SUMMARIES--WHAT WE HEARD

A series of workshop meetings were held to discuss land use planning issues involving the JD Corridor. These meetings were successful in eliciting comments from residents about their concerns related to planning and development in the Corridor. The results of the public forums will be used by both the Planning Commission and the County Staff as input for planning future land uses in the JD Corridor.

October 1990

At the first workshop meeting, staff gave presentations that focused on the industrially zoned properties in the Corridor and on issues related to development of the North Tract. A general discussion of JD Corridor issues followed. The primary comments focused on controlling density, promoting recreation and open space, and effective County administration of land uses.

- Obtaining open space was noted as an important factor in improving the quality of life in the JD Corridor. The North Tract should be obtained by the County for use as open space, and amenities should be built before new offices and residences are completed. Also, open space in the corridor should be actively promoted.
- Concern was expressed over density in the JD Corridor and the trend toward increasing densities. Citizens encouraged development at "by-right" densities rather than allowing increased densities by site plan. By-right conditions should be considered a maximum with approvals reaching for lower densities.
- Noise from National Airport and its possible expansion are a concern. The issue raised was airports rights vs. resident rights.
- It was suggested that the North Tract should be sold to the National Airport Authority and leased back to the County for non-residential restricted use. Also, the County should consider using the North Tract for recreational purposes only.
- The Chesapeake Bay Preservation Act should be used as a tool to assess the environmental impact of proposed developments.
- A loss of tax revenue due to a growing federal, state, or county ownership of land is a concern. How will the County afford the infrastructure improvements needed for additional development?
- Bicycle access should be provided across the GW Parkway to and from the Potomac River.

March 1991

The second workshop, cosponsored by the Long-Range Planning Subcommittee and the County Transportation Committee, focused on transportation issues in the Jefferson Davis Corridor. Staff from the Arlington County Department of Public Works presented the findings of the Navy Draft Environmental Impact Statement and the Arlington County Navy Transportation Study. The primary comments focused on transportation and many questions regarding access and movements within the Corridor were raised.

- Eads St. and Route 1 should become a one-way pair in order to accommodate additional traffic at a higher level of service. Also, South Eads St. should be extended to connect with Commonwealth Ave. in the City of Alexandria.
- The county needs to have a balanced approach to encourage commuters to use alternative means of transportation.
- Even with County improvements to roads and intersections, there will still be unacceptable levels of service. It was suggested that instead of improvements, the County should provide road maintenance only.
- Commuter traffic should be kept off of neighborhood streets.
- HOV lanes should be considered and need to be a factor in transportation studies.

April 1991

The highlight of the third community workshop was the discussion of the Navy Draft Environmental Impact Statement. This workshop was cosponsored by the Economic Development Commission. Staff updated everyone on the status of the Navy consolidation proposal and a general discussion ensued about the consequences of the Navy move. Also, there was some dialogue about significant planning issues to be considered for the JD Corridor.

- General Services Administration (GSA) is the federal agency that oversees government construction/planning projects. How cooperative will GSA be in adhering to County regulations?
- Are there any requirements in place for energy or water conservation?
- Citizens voiced concern about the possibility of the Navy moving out of Arlington; what effect would that have on the future of JD Corridor? An analysis should be done to compare impacts of a Navy location in Arlington versus a Navy location outside of but near Arlington.
- The County should work closely with Congressional leaders to put pressure on the General Services Administration to evaluate the full impact of the Navy Consolidation on Arlington County. There is a need to get additional information (e.g. place of residence, mode of commuting) about the people who will work at the Navy facility. Commuting patterns of the employees is important in evaluation of a full impact. The

new office should be near a Metro Station.

- Consideration should be given to the office space that will be left empty due to the Navy consolidation; leasing this may take longer than expected.
- The JD Corridor land use review process should recognize the Navy relocation proposal and take it into consideration as part of the planning process.
- Land use proposals should include an evaluation of economic impact to the surrounding area.
- Extensive redevelopment in the JD Corridor may affect the quality of life in the corridor.
- There may be environmental consequences from transportation impacts.
- The amount of parking required for by-right development in Metro Station areas is too high and should be decreased to discourage high traffic volumes. The Zoning Ordinance should require a reduction in parking spaces for sites in the station areas.
- Appoint an Architectural Review Committee to encourage the preservation of the existing skyline.
- Commercial development should not be built at the cost of destroying the existing residential base and quality of life in the JD Corridor. Quality of life should be the most important factor in the future planning of the Corridor.
- The County needs to decide whether or not it will accommodate the Navy. If it will, the County should take a lead role in identifying sites and put together a package of possible locations.

May 1991

The fourth and last community workshop featured presentations by the National Capital Planning Commission (NCPC) and the National Park Service (NPS). Representatives from NCPC spoke about the Monumental Core Plan and future federal facility needs. Mr. Hank Snyder from NPS George Washington Memorial Parkway spoke about the facilities in Arlington that are the responsibility of the Park Service. These presentations led to the following comments:

- There is a large amount of greenery in the Monumental Core. The County should remember this when considering development proposals and should seek to enhance the open space. NPS should purchase the former Twin Bridges site; this would make a good addition to the Monumental Core.
- Transportation problems to and from the Monumental Core is a major consideration to take into account as the Core develops. Future plans for the Core should include alternative transportation methods.
- Is consideration being given to expanding or extending the current boundaries of the Monumental Core (specifically to the east)? Will the core be expanded for purposes of land acquisition for future facilities?
- Improving bicycle and pedestrian access can contribute to solving transportation problems. Bicycle paths on bridges to D.C. and an overpass on GW Parkway should be

provided. Future plans for the Monumental Core should include provisions for pedestrians, bicyclists, joggers, and recreational facilities.

- A recreational facility committee should be created to promote the inclusion of regional recreational facilities in the Monumental Core.
- The Arlington County Planning Commission and County Parks and Recreation Commission should be more involved in the planning efforts for the Monumental Core since much of Arlington County is included in the Core.
- Traffic congestion in the JD Corridor is a major source of pollution and lessens the quality of life.
- NCPC should consider including chanceries and international facilities in the Monumental Core Plans.

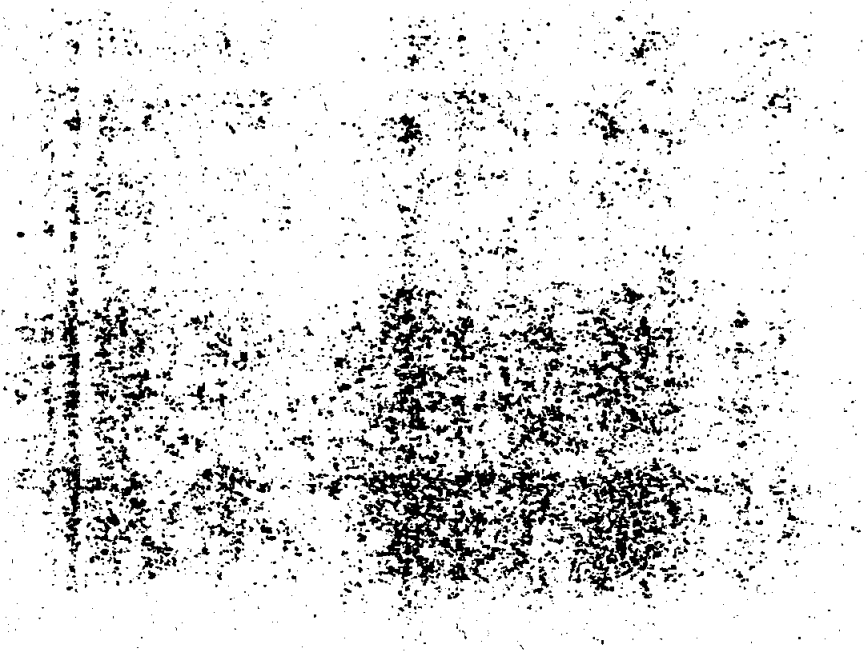
SUMMARY OF WORKSHOPS

The recurring themes throughout all the comments received were concerns over the quality of life in the JD Corridor, active promotion and acquisition of open space, and concerns about transportation issues (road widening, commuting methods, parking). It should be noted that since the time of the workshops, events have occurred that address or have a bearing on some of the comments:

- General Services Administration, which had selected the AT&T site in Pentagon City as the location for the Naval Systems Command consolidation, withdrew their proposal in 1992. Instead, the Price Club will be using the existing building on the AT&T site to open their business and other retail uses.
- The Chesapeake Bay Preservation Ordinance was adopted by the County Board on May 16, 1992, which assures an environmental assessment of future development.
- In an effort to improve community recreation, a bicycle access connection to the G.W. Parkway on the southern end of Crystal Water Park by S. 18th St. opened in the summer of 1992.
- The U.S. Army is seeking to acquire the Twin Bridges site in order to construct an Army Museum.

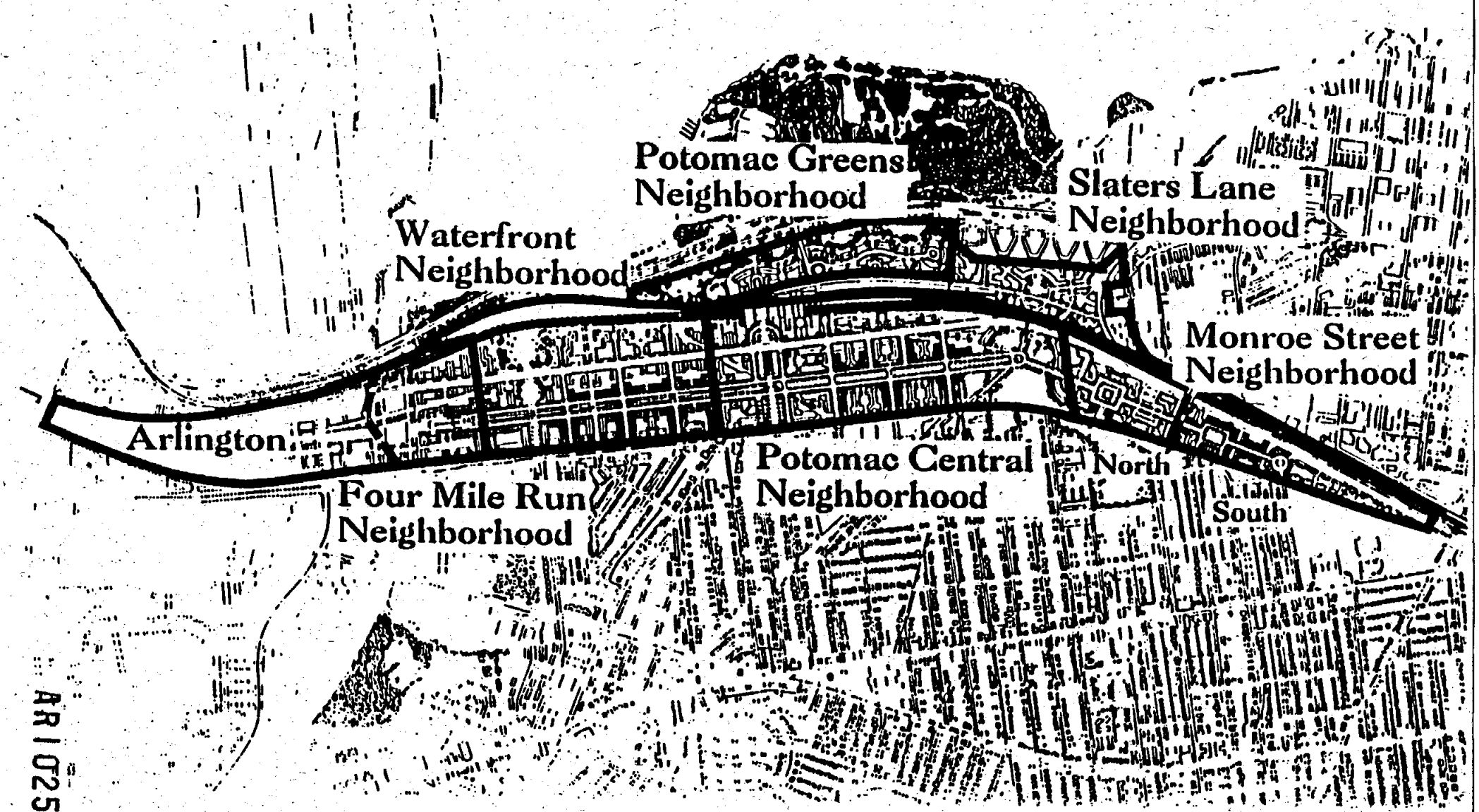
Attachment F

RF&P Development plans and supporting information and drawings



DEVELOPMENT CONCEPT SUMMARY
POTOMAC YARD/POTOMAC GREENS

	Alexandria	Arlington	Total
Size (Acres)			
Total	296.4	45.9	342.3
Buildable	125.7	21.5	147.2
Planned			
Land Use			
Office (S.F.)	3,750,000	2,723,000	6,473,000
Hotel			
- Space (S.F.)	390,625	180,000	570,625
- Number of Rooms	625	300	925
Retail (S.F.)			
- Freestanding	180,000	40,000	220,000
- First Floor/Mixed-Use	245,000	0	245,000
Total Retail:	**425,000**	**40,000**	**465,000**
Residential (S.F.)	7,434,375	1,034,500	8,468,875
	12,000,000	**3,977,500**	**15,977,500**
Dwelling Unit Summary (DU's)			
Townhouse	381	0	381
Stacked Towns	1,594	0	1,594
Mixed-Use	113	0	113
Low-Rise	984	0	984
Mid-Rise	1,008	349	1,357
High-Rise	420	686	1,106
Total Units:	**4,500**	**1,035**	**5,535**



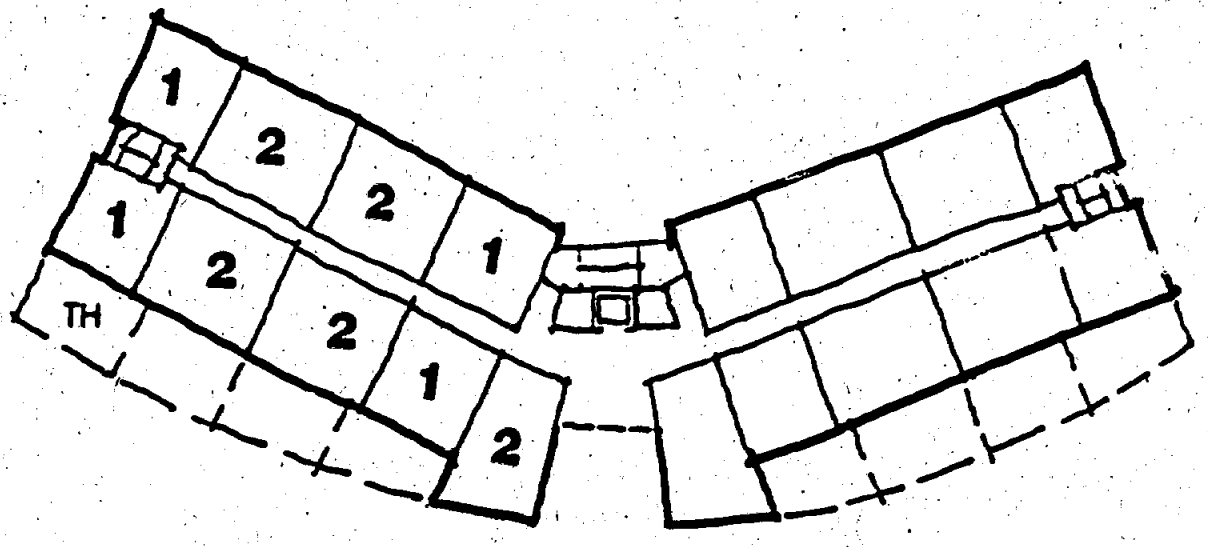
ARI025I4

ALEXA RIA 2020

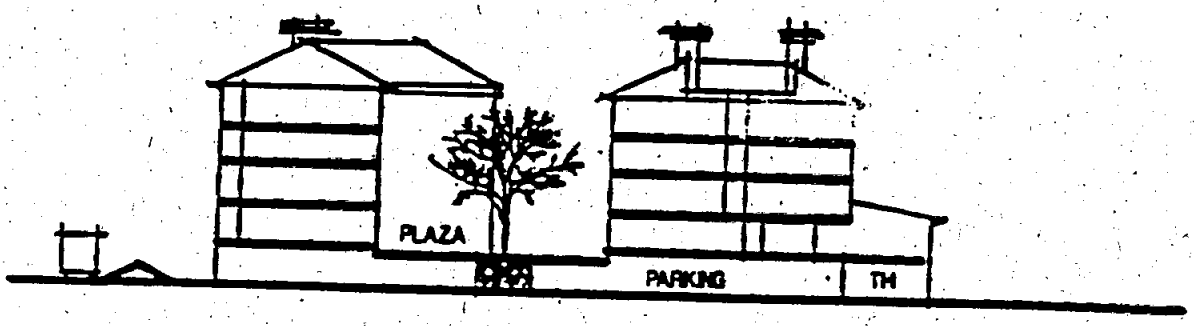
December 1992

SLATERS LANE
DEVELOPMENT PROGRAM

Residential Development		**Parcel**	**Acres**	**Density**	**Total**
I.	Mixed Use Parcel	A	1.6	64/AC	
	Condominium				51DU
	Stacked TH				51DU
II.	MF/Rental Parcels	I,J			
	MF Apts.		3.8	56/AC	215DU
	Stacked TH		0.6	45/AC	40DU
III.	Interior Parcels		5.77	37/AC	
	Stacked TH				150DU
	TH				67DU
Commercial/Retail Development					
IV.	Retail Parcels		2.5	.30FAR	32,500SF
	(Planning of these parcels subject to further discussions with retail developer)				
Supporting Development					
	Public Park		0.5		
TOTAL			**14.77**		**574DU**
					32,500SF



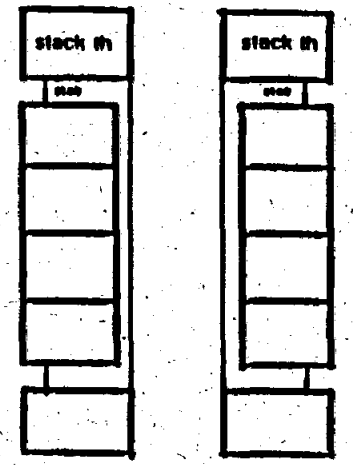
TYPICAL FLOOR PLAN



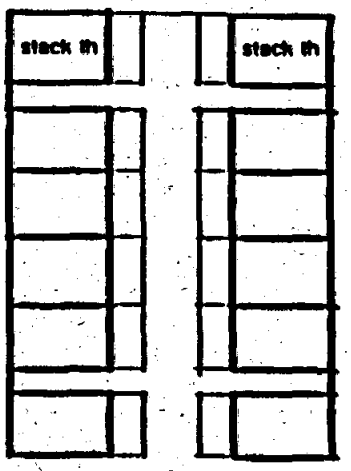
SECTION

POTOMAC GREENS
PROTOTYPICAL MULTIFAMILY MIDRISE BLOCK

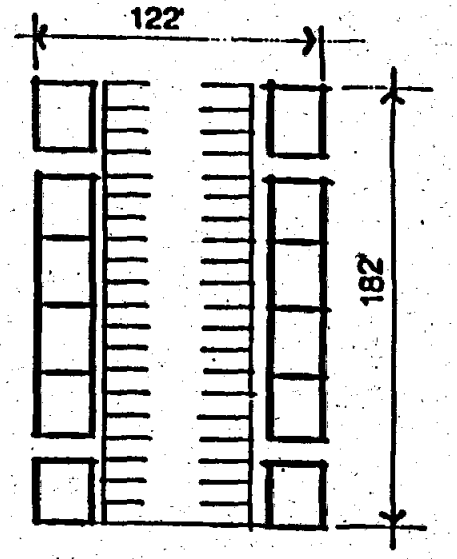
7 January 1994



3rd level



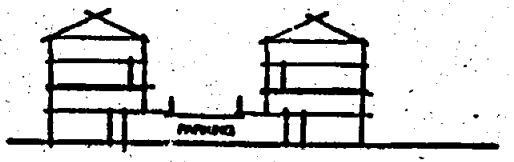
mews level



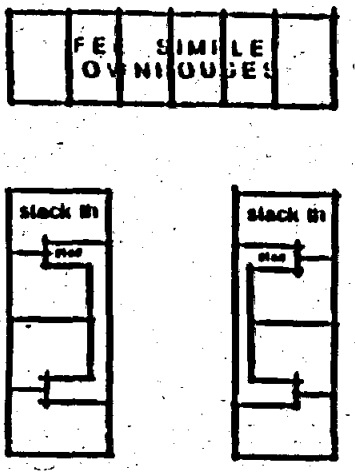
ground level

STACK TOWNHOUSES
PROTOTYPE ST-1

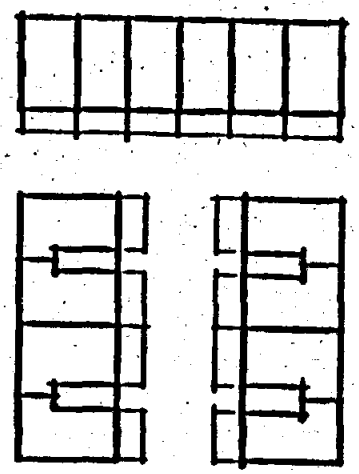
town houses (stack)	24 units
parking spaces	35 (1.5 sp/du)



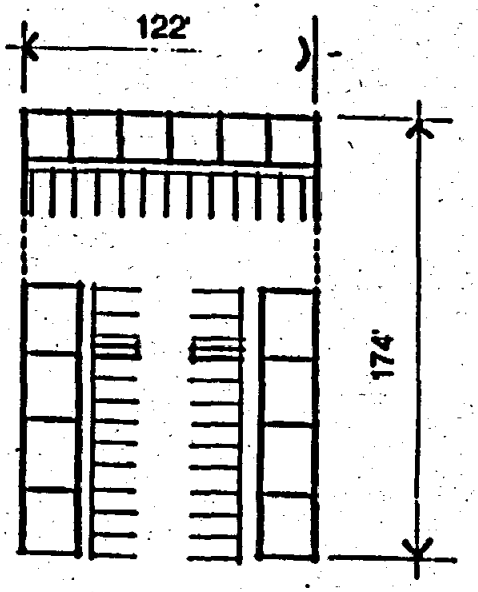
section



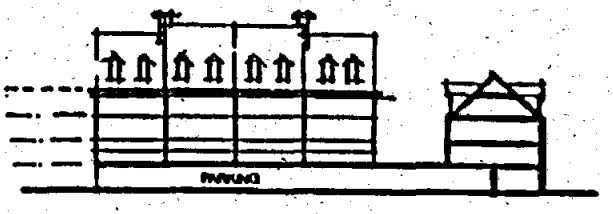
3rd level



mews level



ground level



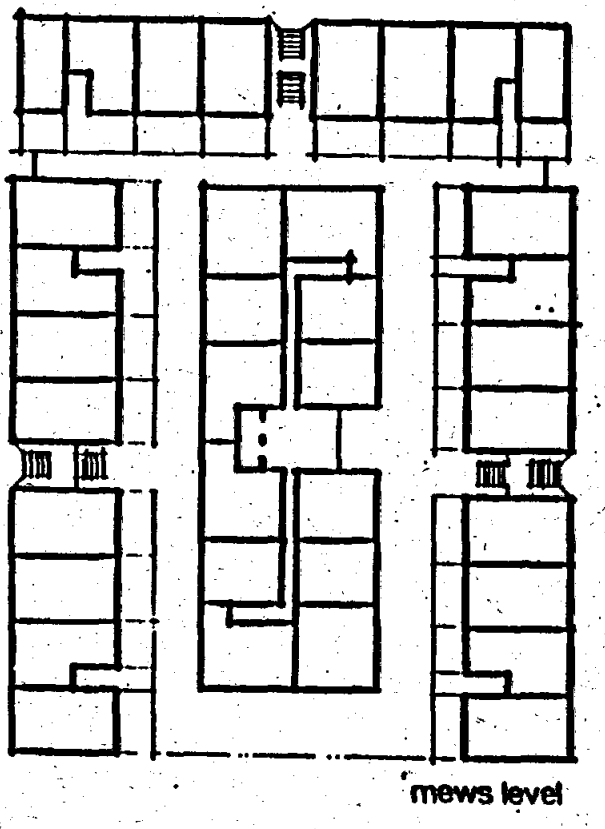
section

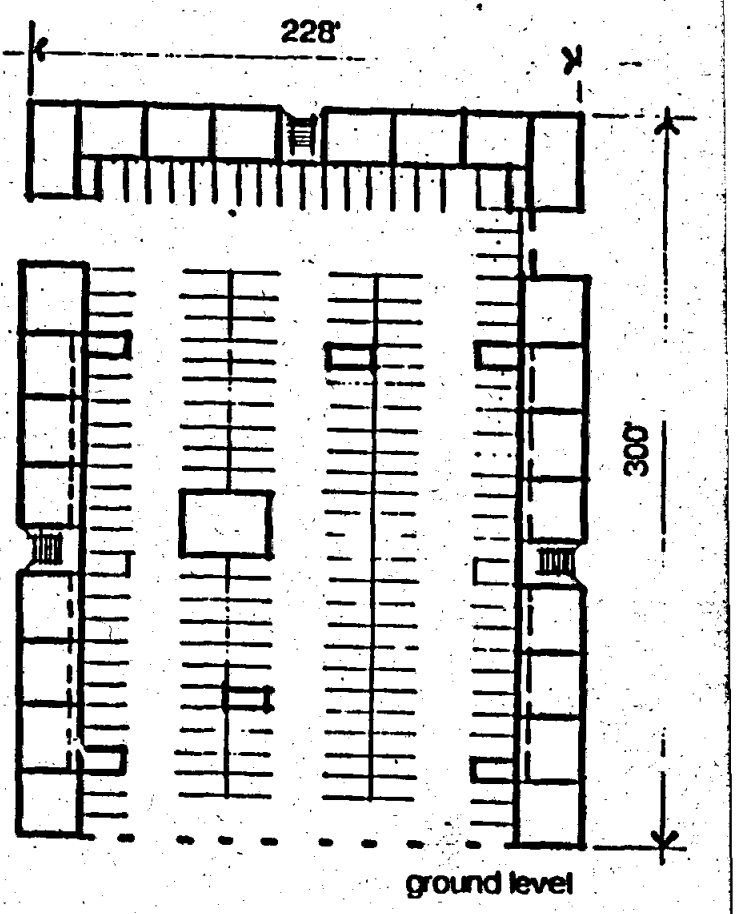
STACK TOWNHOUSES w/ "FEE SIMPLE" TOWNHOUSES
PROTOTYPE ST-1A

town houses (stack) 16 units
town houses (fee simple) 6 units

parking spaces 34 (1.55 sp/du)

ARI 025 18

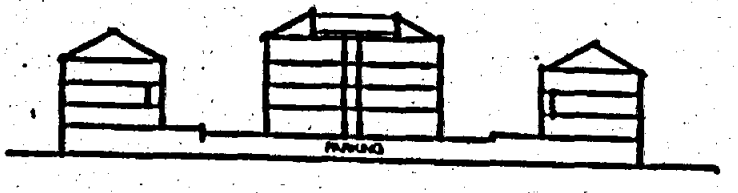




AR102519

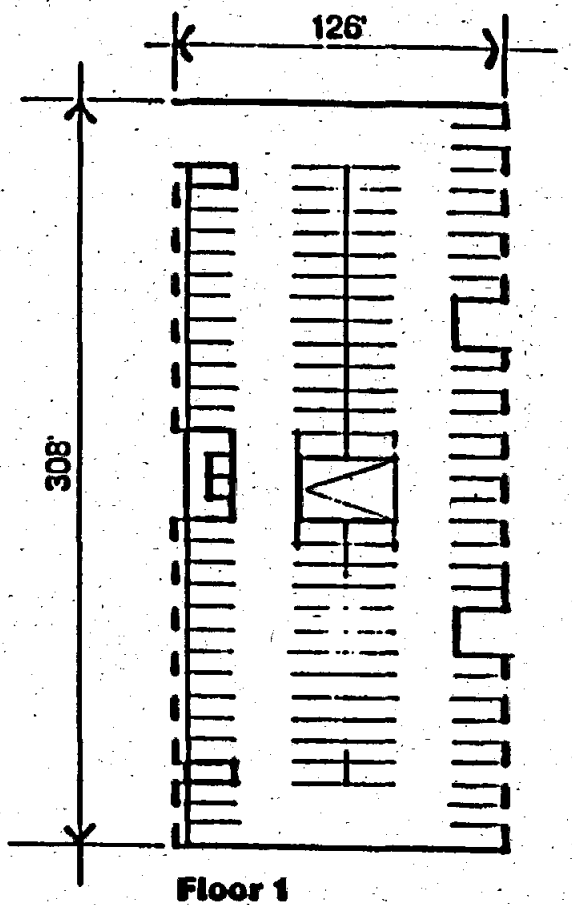
D RISE CONDO W/ STACK TOWNHOUSES
ROTOTYPE MR-1

n houses (stack) 2BR/ 32 3 BR)	61 units
s (4 floors) 2 BR/ 27 1 BR)	61 units
al	102 units
king spaces	153 (1.5 sp/du)

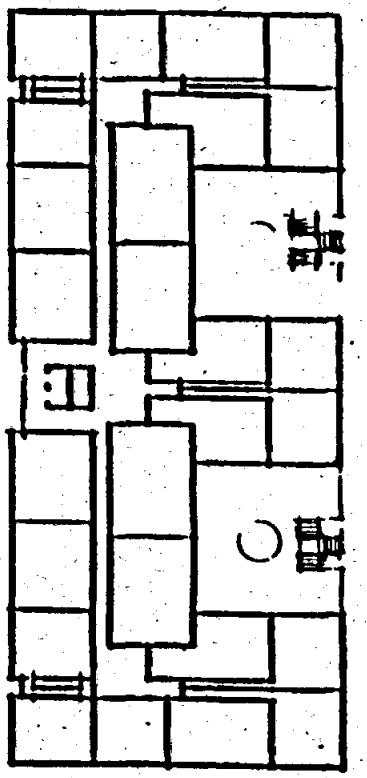


MID RISE CONDO (Rental)
PROTOTYPE MR-4

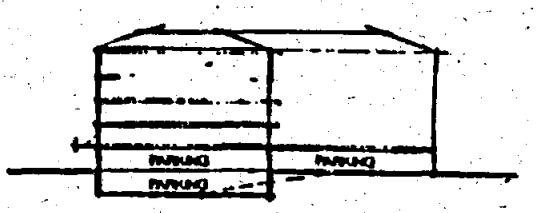
Flats (4 floors) (40 2 BR/ 64 1 BR)	104 units
parking spaces	185 (1.78 sp/du)
-one level at grade/one half level below grade	
Footprint Area	.89 Acres
Footprint Density	116.85 DUs/Ac
Site Area (+40%)	1.25 Acres
Density	83.2 DUs/Ac



Floor 1



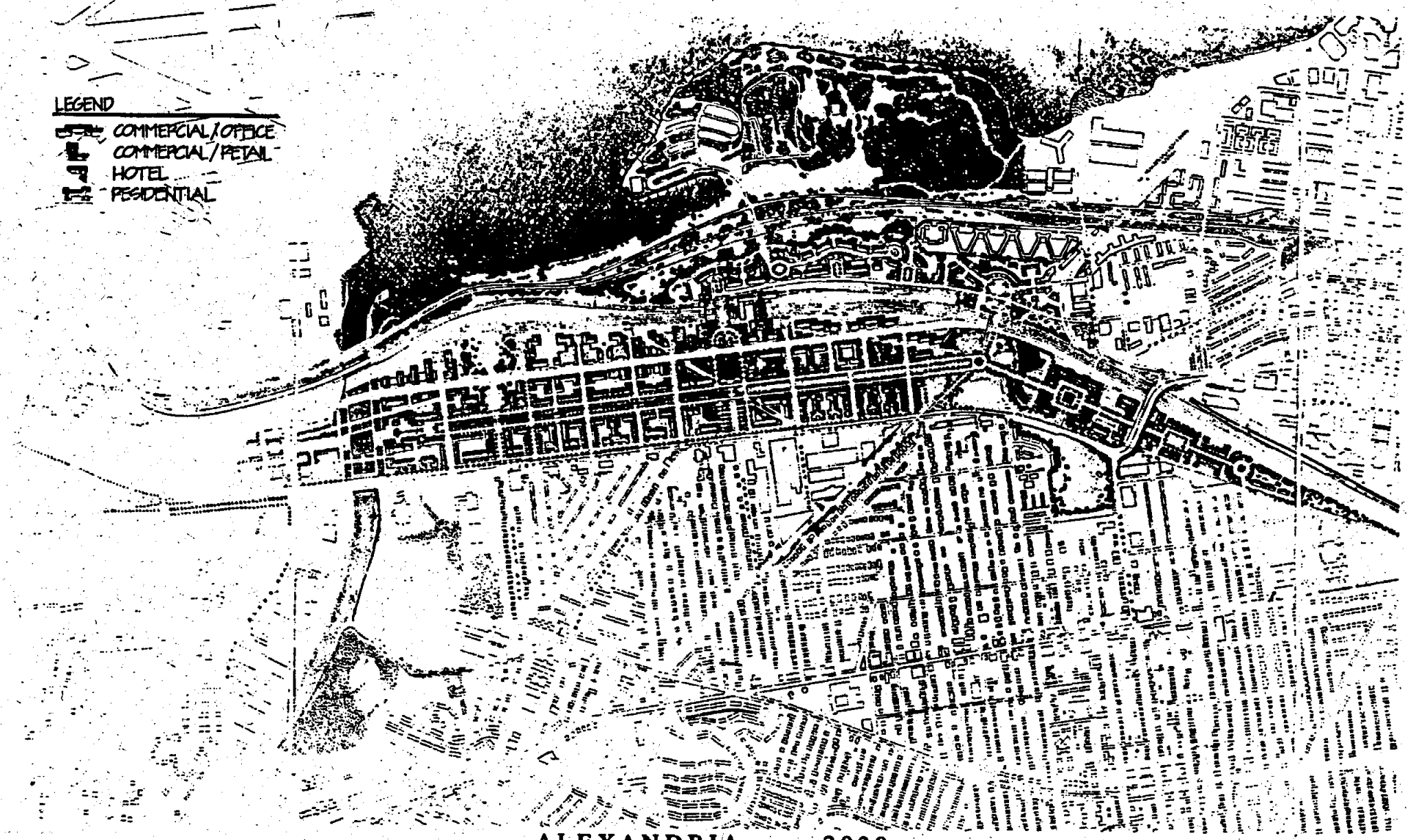
Floors 2 - 5



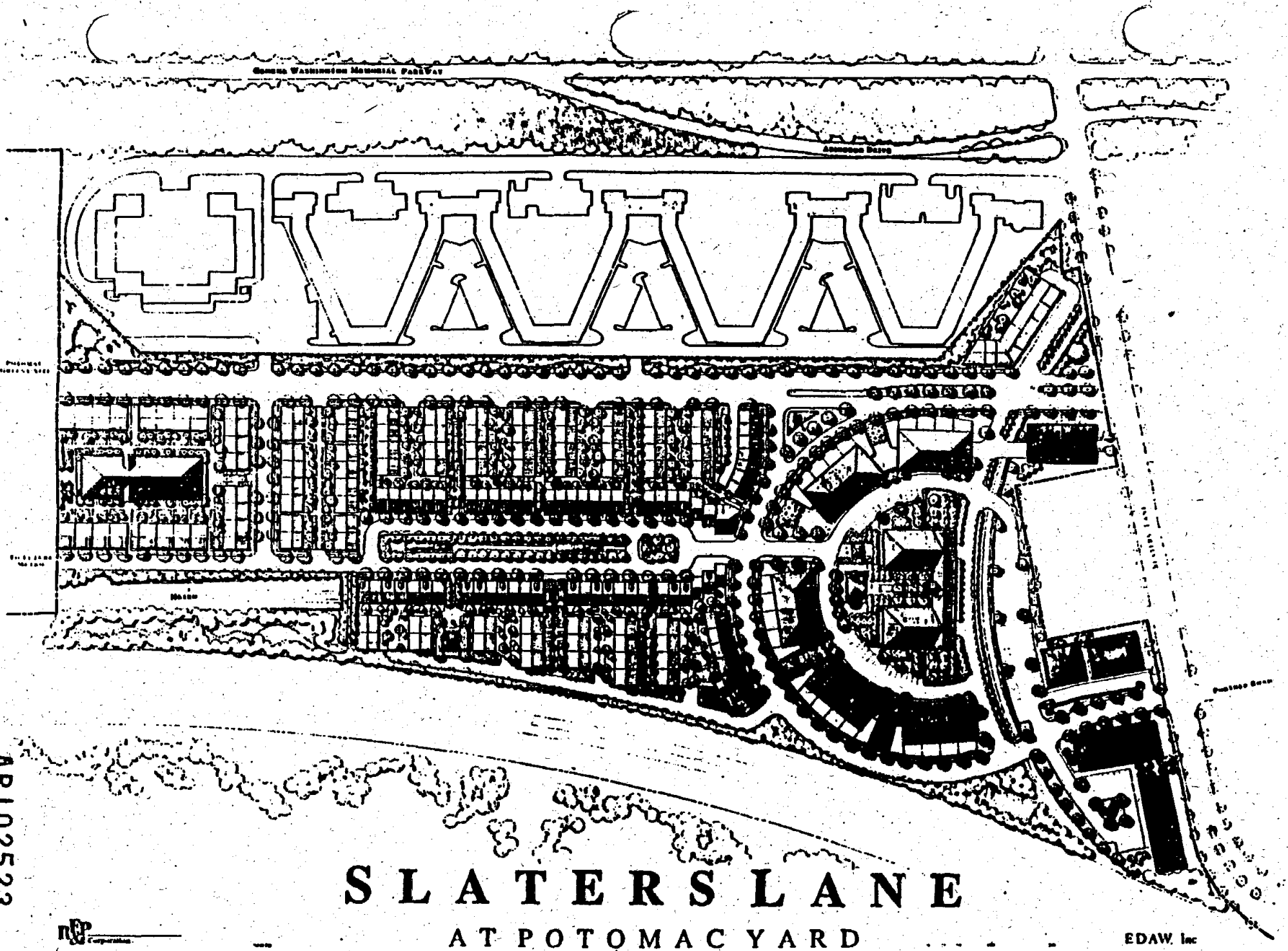
AR 002520

DEVELOPMENT CONCEPT SUMMARY
POTOMAC YARD/POTOMAC GREENS

	Alexandria	Arlington	Total
Size (Acres)			
Total	296.4	45.9	342.3
Buildable	125.7	21.5	147.2
Planned			
Land Use			
Office (S.F.)	3,750,000	2,723,000	6,473,000
Hotel			
- Space (S.F.)	390,625	180,000	570,625
- Number of Rooms	625	300	925
Retail (S.F.)			
- Freestanding	180,000	40,000	220,000
- First Floor/Mixed-Use	245,000	0	245,000
Total Retail:	425,000	40,000	465,000
Residential (S.F.)	7,434,375	1,034,500	8,468,875
	12,000,000	3,977,500	15,977,500
Dwelling Unit Summary (DU's)			
Townhouse	381	0	381
Stacked Towns	1,594	0	1,594
Mixed-Use	113	0	113
Low-Rise	984	0	984
Mid-Rise	1,008	349	1,357
High-Rise	420	686	1,106
Total Units:	4,500	1,035	5,535



ALEXANDRIA 2020



SLATERS LANE

AT POTOMAC YARD

EDAW, Inc

ATTACHMENT 4

TECHNICAL SERVICES DIVISION FIELD SAMPLE WORKSHEET

Technical Services Division Field Sample Worksheet

Project Name:	Potomac Yard	Client Name:	RF&P Railroad Company
ETI Job #:	1116-004-02	Date:	November 11, 1994
Project Manager:	Chuck Flippo	Sample Team Leader:	Jenny Pa[illegible]

Sampling Objectives

Collection of additional samples to provide additional data needed to verify that parameters not analyzed in previous sampling (March, 1994) are absent.

Procedures for Selecting Sample Locations:

Sample locations are a subset of the sample points used in the March, 1994 sampling event.

Table 1: Samples to Respond to EPA Comments

North Tail	
Soil:	BN28.25C.5; N23A; N23C.5; N25B.5; and N29C
Ground Water:	HS-4 and HS-5
Sediment:	NYSed-1; NYSed-2; NYSed-3; and NYSed-4
Surface Water:	NYSW-1; NYSW-2; NYSW-3; and NYSW-4
South Tail	
Soil:	GW-60; S22A'.5; S25A'.25; and S28A'.75
Ground Water:	GW-58 and GW-60
Old Intermodal Area	
Soil:	S10H; and S12G
Ground Water:	GW-56
Eastern Portion of Area A-1	
Soil:	none
Ground Water:	MW-68 and MW-69
Storm Sewers along Four Mile Run	
Sediment:	SSSed-3; SSSed-5; SSSed-6; and SSSed-7
Surface Water:	SSSW-1; SSSW-2; SSSW-3; SSSW-5; SSSW-6; and SSSW-7
Confirmation of Aquitard (Deep Well)	
Ground Water:	GW-70 (GW-70S and GW-70D)

Project Name:	Potomac Yard	Client Name:	RF&P Railroad Company
ETI Job #:	1116-004-02	Date:	November 11, 1994
Project Manager:	Chuck Flippo	Sample Team Leader:	Jenny Payne

Table 2: Additional Field Data

Central Operations Area	
Soil:	none
Ground Water:	MW-7R
North Pond Drainage Ditch	
Sediment:	none
Surface Water:	NPDSW-1 and NPDSW-2 (only ran PAHs during March 1994 sampling event)
Wienberg Arsenic Speciation	
Soil:	N20A; S31A'.5; N15B; N8.5E; N2B; S16A; and S6B
Ground Water:	none

Sample Collection Procedures

Sample collection procedures outlined in the *Work Plan for Extent of Contamination Study of Potomac Rail Yard Site*, December 23, 1992 and *Work Plan for Extent of Contamination Study of the Potomac Yard Site, Addendum: Sampling Plan for Potomac Greens and North/South Tail Areas, and Area A-1 Data Gaps*, May 19, 1994 will be followed.

QA/QC Samples

In accordance with the *Work Plan for Extent of Contamination Study of Potomac Rail Yard Site*, December 23, 1992 and any modifications presented in the *Work Plan for Extent of Contamination Study of the Potomac Yard Site, Addendum: Sampling Plan for Potomac Greens and North/South Tail Areas, and Area A-1 Data Gaps*, May 19, 1994 sufficient quality control (QC) samples will be obtained during the field investigation to ensure that proper data is available for subsequent data validation purposes and that the data obtained during the study is meaningful. At a minimum, one QC sample will be prepared for every 20 field samples collected.

Project Name: Potomac Yard | Client Name: RF&P Railroad Company
ETI Job #: 1116-004-02 | Date: November 11, 1994
Project Manager: Chuck Flippo | Sample Team Leader: Jenny Payne

Trip Blanks

Trip blanks will be prepared by the laboratory using distilled, deionized water of known high purity and sent with the other sample bottles to the field. They will be stored in a cooler, properly labeled (see Part 2 for sample designation) and sent back to the laboratory with the shipment of samples. The trip blank should not be opened or tampered with in any way. Trip blanks will only be analyzed for VOCs.

Equipment Blanks

Equipment blanks will be collected prior to collection of the media sample by running deionized water from its original container across the surface of the sample collection equipment (e.g., bailers for water samples, split spoons for soil samples) directly into the appropriate collection jar. Equipment blank samples will be taken at a frequency of 1 per day of sampling. Each equipment blank should be associated with a particular group of samples and the parameters analyzed for will be the same for the equipment blank as the group of samples.

Field Blanks

During this sampling event, four field blank samples will be collected at a frequency of approximately one per day to characterize field conditions over the duration of the sampling event.

Duplicate Samples

Duplicate samples will be collected from a given sample point by collecting an extra set of samples for each parameter, using the identical sampling technique, shipment, and the same laboratory for the analytical services. There will be four duplicate samples (one soil, one sediment, one ground water, and one surface water) taken during this sampling event. See Part 2 of this worksheet for sample designations.

Split Samples

Split samples will be collected by EPA and sent to a different laboratory. The samples to be split will be determined by EPA. The split samples will be analyzed for the same parameters:

Project Name:	Potomac Yard	Client Name:	RF&P Railroad Company
ETI Job #:	1116-004-02	Date:	November 11, 1994
Project Manager:	Chuck Flippo	Sample Team Leader:	Jenny Payne

Matrix Spike and Matrix Spike Duplicate Samples

Matrix Spike and Matrix Spike Duplicate samples will be collected from a given sample point by collecting two extra sets of samples for each parameter, using the identical sampling technique, shipment, and the same laboratory for the analytical services. For this sampling event, four MS/MSD samples (one soil, one sediment, one ground water, and one surface water) will be collected in quantities sufficient for the laboratory to perform the analysis. See Part 2 of this worksheet for sample designations.

QA/QC Sample Locations

Sample locations for the QA/QC samples will be determined by random number generation to prevent biased sample locations and to provide statistically representative samples of the whole study area in the QA/QC samples. See Part 2 of this worksheet for sample designations.

Aquifer Properties Testing Procedures

Rising-head permeability tests will be conducted on three monitoring wells (HS-4, MW-37, and MW-48). After removing an estimated three well volumes from each well using either a PVC bailer or a Watterra hand pump, the rate of water recovery will be measured at logarithmic time intervals with an electronic water level indicator. Data will be recorded for each of the wells until at least 90 percent of the original water level has recovered. Data collected from these tests will be used to estimate the hydraulic conductivities at the three monitoring well locations.

Decontamination Procedures

Soil and sediment sampling equipment will be decontaminated to prevent cross-contamination between sample stations. All reusable sampling equipment (e.g., split-spoons, hand augers, buckets) will be decontaminated by: 1) washing with non-phosphate detergent (Alconox) and water, 2) triple rinsing with laboratory-grade deionized water, and 3) air drying.

All down-hole drilling equipment (e.g., hollow-stem augers, sample rods) will be decontaminated between borings with a steam generating pressure washer.

Project Name: Potomac Yard Client Name: RF&P Railroad Company
ETI Job #: 1116-004-02 Date: November 11, 1994
Project Manager: Chuck Flippo Sample Team Leader: Jenny Payne

Reusable ground water sampling equipment will be decontaminated to prevent cross-contamination between wells. Development hand pumps will be decontaminated by: 1) washing with non-phosphate detergent and water, 2) triple rinsing with laboratory-grade deionized water, and 3) air drying. Disposable sampling bailers will be certified clean from the distributor and will not be reused.

Handling of Investigation-Derived Wastes (cuttings, purge water, decon rinsate, etc.)

Cuttings from soil borings will be placed near their wells unless they are noticeably contaminated. Noticeably contaminated soils will be placed in drums and staged for later disposal. Disposal or removal of these soil cuttings will be based on analytical results of subsurface soil samples.

All surficial soil samples not collected in sample jars will be placed back in the locations from which the samples were removed.

Well development, purge, and decontamination water will be stored in drums on site pending analytical results. The water will be properly disposed of according to the analytical results and current EPA and Virginia regulations and policies. All drums should be properly labeled with the following information:

"ETI"
Date
Contents (include well numbers if appropriate)

Empty 55-gallon drums are currently located in the drum storage area of the site.

Health & Safety

The Health and Safety Plan presented in the *Work Plan for Extent of Contamination Study of Potomac Rail Yard Site*, December 23, 1992 and modified in the *Work Plan for Extent of Contamination Study of the Potomac Yard Site, Addendum: Sampling Plan for Potomac Greens and North/South Tail Areas, and Area A-1 Data Gaps*, May 19, 1994 will be followed. However, Jennifer Payne is designated as the Health and Safety Officer for this November, 1994 sampling event only. A hospital location is posted in the contractor's office of the office building along with a complete copy of the Health and Safety Plan.

Technical Services Division Field Sample Worksheet

Project Name:	Potomac Yard	Client Name:	RF&P Railroad Company
ETI Job #:	1116-004-02	Date:	November 11, 1994
Project Manager:	Chuck Flippo	Sample Team Leader:	Jenny [illegible]

Site Restoration

Based on the type of sampling to be performed during this sampling event, site restoration activities are not deemed necessary at this time.

Approvals:

	Sample Team Leader	Project Manager (or designee)
Signature:	[signature]	[signature]
Date:	11-11-94	11/11/94

PART 2: SAMPLE COLLECTION INFORMATION

Technical Services Divisio... ample Worksheet

Sample Location	Sample Depth (feet)	Sample ID	Sample Type (matrix)	Analyses (Specify Method)	Sample Container	Preservation	Comments

Technical Services Division Field Sample Worksheet

Sample Location	Sample Depth (feet)	Sample ID	Sample Type (matrix)	Analyses (Specify Method)	Sample Container	Preservation	Comments
Central Operations Area							
MW-7R	none	MW-7R	Ground Water	TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
North Yard Tail							
BN28.25C.5	3	BN28.25C.5-1	Soil	TAL Metals	8-oz. widemouth glass	Cool, 4°C	
	6	BN28.25C.5-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
N23A	3	N23A-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	N23A-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	N23A-3		Pesticides	Laboratory printout		
N23C.5	3	N23C.5-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	N23C.5-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	N23C.5-3		Pesticides	Laboratory printout		
N25B.5	3	N25B.5-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	N25B.5-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	N25B.5-3		Pesticides	Laboratory printout		
N29C	3	N29C-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	N29C-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	N29C-3		Pesticides	Laboratory printout		
HS-4	none	HS-4	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		
HS-5	none	HS-5	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		
Drainage Ditch North Yard Tail	none	NYSED-1	Sediment	VOC - 8240	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		NYSED-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
Drainage Ditch North Yard Tail	none	NYSW-1	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
		NYSW-2		SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
Ditches near meter	none	NYSED-3	Sediment	TAL Metals	8-oz. widemouth glass	Cool, 4°C	
		NYSED-4		VOC - 8240	4-oz. widemouth glass w/teflon lined closure		
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
				TPH - 8015 Mod. Diesel	8-oz. widemouth glass		
Ditches near meter	none	NYSW-3	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Dissolved metals should be field filtered
		NYSW-4		SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
				TAL Metals (total)	200-ml polyethylene	HNO3 to pH <2.0	
				TAL Metals (dissolved)	200-ml polyethylene	Cool, 4°C	
South Yard Tail							
GW-60	3	GW-60-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	GW-60-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	GW-60-3		Pesticides	Laboratory printout		
	15	GW-60-4					
	20	GW-60-5					
S22A'.5	3	S22A'.5-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	S22A'.5-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				Pesticides	Laboratory printout		
S25A'.25	3	S25A'.25-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	S25A'.25-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				Pesticides	Laboratory printout		
S28A'.75	3	S28A'.75-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	S28A'.75-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	S28A'.75-3		Pesticides	Laboratory printout		
	15	S28A'.75-4					
	20	S28A'.75-5					
GW-58	none	GW-58	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		
GW-60	none	GW-60	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		

File Name: Addsampl.wk1

Technical Services Division Field Sample Worksheet

Sample Location	Sample Depth (feet)	Sample ID	Sample Type (matrix)	Analyses (Specify Method)	Sample Container	Preservation	Comments
Old Intermodal Area							
S10H	0-6"	S10H-S	Soil	SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	3	S10H-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	S10H-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
	10	S10H-3					
	15	S10H-4					
	20	S10H-5					
S12G	0-6"	S12G-S	Soil	SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	3	S12G-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
	6	S12G-2		SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
GW-56	none	GW-56	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		
Eastern Portion of Area A-1							
MW-68	none	MW-68	Ground Water	TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
MW-69	none	MW-69	Ground Water	TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
North Pond Drainage Ditch							
NPDSW	none	NPDSW-1	Surface Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	Sample collected in March 94 was only run for PAHs
		NPDSW-2					
Storm Sewers along Four Mile Run							
SSSW-1	none	SSSW-1st	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Storm Event
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSW-2	none	SSSW-2	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Base Flow Conditions (Dry weather)
		SSSW-2st		SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	Storm Event
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSW-3	none	SSSW-3st	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Storm Event
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSW-5	none	SSSW-5	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Base Flow Conditions (Dry weather)
		SSSW-5st		SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	Storm Event
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSW-6	none	SSSW-6st	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Storm Event
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSW-7	none	SSSW-7st	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Storm Event
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
SSSed-3	----	SSSed-3	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
SSSed-5	----	SSSed-5	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
SSSed-6	----	SSSed-6	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
SSSed-7	----	SSSed-7	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		
Confirmation of Aquitard (Deep Well)							
GW-70	65	GW-70S	Ground Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Dissolved metals should be field filtered
	110	GW-70D		SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Drilling Fluid		PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Cutting Fluid		TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
				TAL Metals (total)	200-ml polyethylene	HNO3 to pH <2.0	
				TAL Metals (dissolved)	200-ml polyethylene	Cool, 4°C	

File Name: Addsp

Technical Services Division .ample Worksheet

Sample Location	Sample Depth (feet)	Sample ID	Sample Type (matrix)	Analyses (Specify Method)	Sample Container	Preservation	Comments
Weinberg Arsenic Speciation							
N20A	top 15 cm	N20A/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		N20A/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		N20A/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
S31A'.5	top 15 cm	S31A'.5/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		S31A'.5/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		S31A'.5/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
N15B	top 15 cm	N15B/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		N15B/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		N15B/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
N8.5E	top 15 cm	N8.5E/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		N8.5E/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		N8.5E/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
N2B	top 15 cm	N2B/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		N2B/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		N2B/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
S16A	top 15 cm	S16A/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		S16A/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		S16A/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		
S6B	top 15 cm	S6B/Spec	Soil(ballast)	Speciation	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		S6B/Leach		Leaching Study	4-oz. widemouth glass w/teflon lined closure		
		S6B/Chara		Characterization of AR(III) & AR(V)	4-oz. widemouth glass w/teflon lined closure		

File Name: Addsampl.wk1

Technical Services Division Field Sample Worksheet

Sample Location	Sample Depth (feet)	Sample ID	Sample Type (matrix)	Analyses (Specify Method)	Sample Container	Preservation	Comments
QA/QC Samples							
Trip Blanks	----	Trip Blank 1 Trip Blank 2 Trip Blank 3 Trip Blank 4	lab supplied	Volatile organics	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Trip blank is peformed for every shipment of VOCs.
Field Blank	----	Field Blank-1	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
				TAL Metals (total)	200-ml polyethylene	HNO3 to pH <2.0	
				TAL Metals (dissolved)	200-ml polyethylene	Cool, 4°C	
		Field Blank-2	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Field Blank-3	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Field Blank-4	Distilled Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
Equipment Blank	----	EQ Blank-1	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
				TAL Metals (total)	200-ml polyethylene	HNO3 to pH <2.0	
				TAL Metals (dissolved)	200-ml polyethylene	Cool, 4°C	
		EQ Blank-2	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		EQ Blank-3	Distilled Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		EQ Blank-4	Distilled Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
MS/MSD		Matrix Spike-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	Actual samples locations to be determined via random number generation
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				TAL Metals	8-oz. widemouth glass	Cool, 4°C	
		Matrix Spike-2	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		Matrix Spike-3	Ground Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Matrix Spike-4	Surface Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Matrix Spike Dup-1	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				TAL Metals	8-oz. widemouth glass	Cool, 4°C	
		Matrix Spike Dup-2	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
		Matrix Spike Dup-3	Ground Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
		Matrix Spike Dup-4	Surface Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
Duplicate	6	N2SC3-2Dup	Soil	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				Pesticides	Laboratory printout		
	none	GW-56Dup	Ground Water	SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure		
	none	NYSW-3Dup	Surface Water	VOC - 8260	Two 40-ml vials w/teflon lined septum caps	4 drops concentrated HCl, Cool, 4°C	Dissolved metals should be field filtered
				SVOC - 8270	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				PCB/Pest - 8080	1-liter amber glass w/teflon lined closure	Cool, 4°C	
				TPH - 8015 Mod. Diesel	1-liter amber glass w/teflon lined closure	H2SO4, Cool, 4°C	
				TAL Metals (total)	200-ml polyethylene	HNO3 to pH <2.0	
				TAL Metals (dissolved)	200-ml polyethylene	Cool, 4°C	
	----	SSSed-5Dup	Sediment	VOC - 8260	4-oz. widemouth glass w/teflon lined closure	Cool, 4°C	
				SVOC - 8270	8-oz. widemouth glass w/teflon lined closure		
				PCB/Pest - 8080	8-oz. widemouth glass w/teflon lined closure		

File Name: Addr

ATTACHMENT 5

APPENDIX P

APPENDIX P

SUPPLEMENTAL INFORMATION ON THE APPROACH TO THE ECOLOGICAL RISK ASSESSMENT FOR THE POTOMAC YARD SITE

SUPPLEMENTAL INFORMATION ON THE APPROACH TO THE ECOLOGICAL RISK ASSESSMENT FOR THE POTOMAC YARD SITE

This appendix presents additional information on the approach to be adopted for the ecological risk assessment for the Potomac Yard site. This information has been compiled in response to the modifications and approval of the work plan addendum by the U.S. Environmental Protection Agency (EPA). Our proposed approach to addressing each EPA modification to the work plan addendum is presented below.

(1) ANNOTATED OUTLINE

An annotated outline for the ecological risk assessment is presented below.

1.0 Introduction

The risk assessment will be conducted in accordance with ecological assessment guidance published by EPA headquarters (1989, 1991) and EPA Region III (1994). The assessment will be a screening-level assessment as defined in the EPA Region III guidance document (EPA 1994).

2.0 Problem Definition

The risk assessment will begin with a presentation of a conceptual model for the site that identifies the principal chemical sources at the site, the likely mechanisms of release, and the probable fate and transport pathways, as well as the general receptor groups and exposure pathways of concern. Most of the information required to develop this model will be derived from the Extent of Contamination Study (ECS). However, other information compiled as part of the human health risk assessment, including a detailed characterization of the site development plans, will be considered in developing the site conceptual model for the ecological assessment. The results of this analysis will be used to develop the objectives of the assessment and to define its scope.

Based on the information collected to date, the principal wildlife habitats on or near the study area are provided by Four Mile Run, the Potomac River, and the vegetated portions of Potomac Greens. The remainder of the approximately 500-acre site (including virtually all of Area A-1) is highly disturbed with little or no vegetation and consists of soils, ground cover and fill material that are not conducive to vegetative development. Consequently, this area provides little forage or cover for wildlife species. Once the property is developed, Four Mile Run and the Potomac River will be the primary source of habitat in the vicinity of the site. For this reason, the aquatic communities of Four Mile Run and the Potomac River will be the principal receptor groups to be considered in the ecological assessment. Potential

risks to wildlife species that might use Potomac Greens now or following development also will be evaluated.

3.0 Ecological Receptor Characterization

A receptor characterization will be conducted to identify the particular habitats and receptor species of the study area. This will be accomplished through a site walkover of the study area by a field biologist. Transects will be established and surveyed on Potomac Greens. The main yard also will be walked, but no transects will be established because the limited habitat that is available on the main yard is relatively homogenous and can be characterized sufficiently without establishing transects. Information to be recorded during the site-walkover includes: 1) the general type and distribution of vegetative communities and underlying soil types at the site; 2) the prevalent plant species within each vegetative community; and 3) the wildlife species or their sign observed at the site. The site walkover also will include a characterization of Four Mile Run. Information to be obtained for Four Mile Run includes: 1) the approximate average depth, width, and flow of the creek; 2) substrate type; 3) presence of prevalence of submerged and emergent aquatic vegetation; 4) type and extent of bank vegetation; and 5) species observed during the site visit.

This site-specific information will be supplemented by information obtained from contacts with State, local, and Federal wildlife biologists familiar with the area and its habitats, and the use of regional field guides and species lists (as available). Aerial photographs and topographic maps, as well as the wetland maps already generated for the site (see Plate No. 2 of this work plan addendum) will be used to characterize potential receptors, and to prepare a general habitat map of the study area. Hydrologic data will be supplemented with materials available from the U.S. Army Corps of Engineers (USACOE), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Geological Survey (USGS), and the County of Arlington Publicly Owned Treatment Works (POTW).

4.0 Exposure Assessment

Once site-specific receptor groups have been identified, receptor-specific exposures will be evaluated. All analytical data collected as part of the ECS investigations will be considered in the exposure assessment. Chemicals selected for evaluation will exclude chemicals that are present at background concentrations and any detected chemicals that were shown, using criteria developed by EPA, to be laboratory or sampling artifacts. Chemicals that were not detected in a given medium, but for which the detection limits exceed ecotoxicological screening criteria, will be evaluated separately in the assessment. In these instances, in accordance with EPA Region III requirements, the detection limit will be used as the exposure concentration. The rationale used to select chemicals for evaluation will be fully documented in the report.

Ecological exposures will be characterized on a sample-point-specific basis for each potential ecological exposure point, rather than calculating a chemical- and medium-specific average

concentration for the entire site. The particular approaches and data to be used to assess exposure are outlined below for each exposure environment.

Four Mile Run and the Potomac River

As stated above, Four Mile Run and the Potomac River will be the focus of the ecological risk assessment. Surface water and sediment data collected from drainage ditches and storm sewers at the property boundary will be used as upper-bound estimates of potential exposure concentrations in Four Mile Run and the Potomac River as a result of surface releases from the Potomac Yard site. Each property boundary discharge point will be evaluated as a separate exposure point. Data collected under base-flow conditions will be used to characterize potential long-term exposure concentrations; data collected during storm events will be used to characterize episodic, short-term exposures. The property boundary sample locations to be used in this assessment are identified on Plate No. 1 of this work plan addendum and are as follows: SSW-1P, SSSW-1F, EPASW-13, SSSW-2, SSSW-2P, SSSW-2F, SW12/12DUP, EPASW-11, SSSW-5, SSSW-5P, SSSW-5F, SSSW-6P, SSSW-6F, NYSW-2, SSSED-3, SSSED-5, SSSED-6, SSSED-7, NYSED-2, NPDSW/SED-2, and SPDSW/SED-3.

Data from the property boundary will be used as the surrogate exposure point concentrations for Four Mile Run and the Potomac River in lieu of actual off-site sampling data from these waters because of historical and continuing chemical releases to these water bodies from multiple sources within the watershed (e.g., the Arlington County POTW, National Airport, City of Alexandria and Arlington County storm sewers, run-off from adjacent roadways) have likely contributed substantially to the chemical loadings. As a result, the relative incremental chemical contribution to these waters from the Potomac Yard site would be difficult to characterize using samples collected from these waters given that: 1) the discharge volume and chemical loading from these other sources is high; 2) the chemical constituents associated with the Potomac Yard site and the regional watershed (e.g., PAHs, metals) are similar (i.e., there is no unique set of chemicals that can be linked to the site); and 3) the receiving waters are tidal, which complicates the definition of "downgradient" with respect to the site. The data collected from Four Mile Run and the Potomac River will be presented in the report, however, only to provide a "baseline" characterization of the chemical conditions within these water bodies. Data to be presented include sampling data collected during the ECS and data collected as part of local or regional monitoring programs. Any limitations of the sampling data with respect to characterizing chemical levels within these waters (e.g., temporal issues related to different sampling periods, completeness of the analyte list, detection limit issues, blank contamination) will be thoroughly discussed in the risk assessment.

Potential exposures resulting from transport and release of chemicals in ground water to Four Mile Run and the Potomac River also will be evaluated. The data collected from monitoring wells near these water bodies will be used to generate estimates of the concentrations of chemicals potentially released to these waters. A simple fate and transport model such as

that described in EPA (1988) will be used to estimate chemical concentrations in groundwater at the site boundary, prior to discharge to surface water. These concentrations will be compared directly to ecological screening criteria without considering subsequent dilution within surface water.

This proposed approach for characterizing surface water and sediment exposure concentrations in Four Mile Run and the Potomac River is highly conservative given that chemicals released from the yard will be diluted and dispersed within the receiving waters. This approach, however, is consistent with the requirements for screening-level ecological assessments outlined in EPA Region III guidance (EPA 1994). The uncertainties associated with conclusions based on this approach will be addressed in the uncertainty section of the assessment.

Potomac Greens

Potomac Greens currently provides habitat for a limited number of wildlife species. Sampling data collected from surface soils and drainage ditches will be used to assess wildlife exposures under current land use conditions. Exposures will be evaluated separately for each sample location. The samples to be included in the ecological assessment of Potomac Greens are identified on Plate 1 of this work plan addendum and are as follows:

- soil -- FA-A, DSA1-1, DSA2-1, DSA3-1, Fill-1, Fill-2, Fill-3, and Fill-4; and
- surface water/sediment -- NPDSW/Sed-1, NPDSW/Sed-2, MPDSW/Sed-1, SPDSW/Sed-1, SPDSW/Sed-2, and SPDSW/Sed-3.

Because development of the property will alter the site's habitat, the exposure pathways to be evaluated under future use conditions will differ from those under the current use. A complete description of the proposed development and the habitat that is expected to exist following development will be provided in the report. Development plans are being submitted separately to EPA in response to the approved work plan.

Main Yard (Area A-1, North Tail, South Tail)

As discussed previously, little wildlife habitat exists on the main yard. For this reason and because the site will provide even less habitat following development, no ecological exposures will be evaluated for the main yard. Transport of chemicals from the main yard to Four Mile Run, the Potomac River, or Potomac Greens will be included as part of the assessments described above. In addition, the effects of development in mitigating off-site releases will be discussed.

5.0 Ecological Effects Characterization

Chronic ambient water quality criteria (AWQC), if available, will be used to assess surface water toxicity for long-term exposures in aquatic life. Chronic no-effect or lowest-effect concentrations levels reported by EPA or in the literature will be used in the absence of AWQC. Acute AWQC or lowest-effect concentrations will be used to assess toxicity for episodic, short-term exposures (e.g., during storm events). Sediment toxicity values published in the literature (e.g., Long and MacDonald 1992) or derived using equilibrium partitioning models (e.g., as used by EPA in developing sediment quality criteria) will be used to characterize the potential aquatic toxicity of sediment-sorbed chemicals. Screening-level toxicity values will be developed for evaluation of chemicals in soils at Potomac Greens using toxicity data derived from the literature. The ecological effects characterization for each chemical will include a summary of the toxicological endpoints associated with each screening value criterion and an identification of receptors that might be sensitive or susceptible to a chemical's effects.

6.0 Risk Characterization

Consistent with the screening-level approach outlined by EPA Region III (EPA 1994), risks will be characterized by dividing the exposure concentrations by the screening toxicity criterion for each chemical in each exposure medium. The resultant value is termed the environmental effects quotient (EEQ). EEQs less than one (1) are interpreted as indicating no environmental risk. EEQs greater than one (1) are considered to indicate a potential risk. Based on Region III direction, values higher than ten (10) will be interpreted as indicating moderate risk, and values above 100 will be considered to represent high risk. For any EEQ greater than one, the population and community-level consequences of these exposures will be explored.

7.0 Uncertainty Analysis

The uncertainties associated with the risk evaluation also will be evaluated as part of the risk assessment. This is considered a very important part of this screening-level assessment because the approach used to characterize ecological risk is highly conservative. Consequently, there will be a large amount of residual uncertainty remaining after completion of the analysis. All phases of the assessment will be addressed. Some important issues to be addressed in the uncertainty analysis include the following:

- probability of site use by wildlife species;
- completeness of the characterization of nature and extent of contamination (e.g., adequacy of sampling with respect to temporal and spatial issues and detection limits);
- magnitude of chemical loading to and distribution in Four Mile Run and the Potomac River from surface and ground water discharge from Potomac Yard;

- baseline and background chemical conditions in Four Mile Run and the Potomac River;
- basis and applicability of the screening toxicity criteria used in the assessment; and
- actual probability of population-level exposures and impacts.

8.0 Conclusions

The conclusions of the risk assessment will be a synthesis of the results to the screening-level assessment and the results of the uncertainty analysis. Areas of the site posing a threat to aquatic or terrestrial wildlife will be identified and the magnitude of the risks will be summarized. Risks associated with current site conditions will be discussed separately from those that will exist following site development.

9.0 References

Long, E.R. and D.D. MacDonald. 1992. National Status and Trends Program approach. In: *Sediment Classification Methods Compendium*. EPA 823-R-92-006. EPA office of Water (Wh-556). Washington, D.C.

Environmental Protection Agency (EPA). 1988. Superfund Exposure Assessment Manual. EPA/540/1-88/001.

Environmental Protection Agency (EPA). 1989. Risk Assessment Guidance for Superfund. Volume II. Environmental Evaluation Manual. Interim Final. Office of Emergency and Remedial Response. Washington, D.C. EPA/540/1-89/001.

Environmental Protection Agency (EPA). 1992. Framework for Ecological Risk Assessment. Risk Assessment Forum. EPA/630/r-92/001.

Environmental Protection Agency (EPA). 1994. Environmental Risk Assessment Guidelines. EPA Region III Superfund Technical Support Section. July 27.

(2) DATA TO BE USED

Data from the following sampling locations will be used to assess ecological exposures and risks for each exposure environment:

- Four Mile Run and the Potomac River:

  SSW-1P, SSSW-1F, EPASW-13, SSSW-2, SSSW-2P, SSSW-2F, SW12/12DUP, EPASW-11, SSSW-5, SSSW-5P, SSSW-5F, SSSW-6P, SSSW-6F, NYSW-2, SSSED-3, SSSED-5, SSSED-6, SSSED-7, NYSED-2, NPDSW/SED-2, SPDSW/SED-3

- Potomac Greens:

  soil -- FA-A, DSA1-1, DSA2-1, DSA3-1, Fill-1, Fill-2, Fill-3, and Fill-4; and

  surface water/sediment -- NPDSW/Sed-1, NPDSW/Sed-2, MPDSW/Sed-1, SPDSW/Sed-1, SPDSW/Sed-2, and SPDSW/Sed-3.

(3) STATISTICAL APPROACH

Ecological exposures will be characterized on a sample-point-specific basis for each potential ecological exposure point, rather than calculating a chemical- and medium-specific average concentration for the entire site. Therefore, no statistical summary of the data will be prepared. This sample-point-specific approach will result in the calculation of multiple environmental effects quotients (EEQs) across the site, rather than a single EEQ value that is assumed to be representative of the entire site. The distribution of EEQs generated using this approach will represent the distribution of screening-level risks across the site.

EPA Region III gave approval of this approach in a letter from Robert Davis, EPA Region III Biologist, to Judi Durda of the WEINBERG CONSULTING GROUP Inc. (RF&P risk assessment consultant), received November 7, 1994 (Attachment A to this appendix). In that letter, however, EPA also expressed concerns regarding how the screening-level risk assessment results should be interpreted. RF&P recognizes these concerns and will address them in the ecological risk assessment report.

(4) UNCERTAINTY ANALYSIS

RF&P will address the uncertainties and limitations of the risk evaluation both qualitatively and quantitatively. Qualitative evaluations will consist of an identification of the sources of uncertainty and a discussion of their possible effect on the risk estimate (i.e., over-estimate and/or under-estimate). Quantitative evaluations will consist of alternative numeric evaluations of the data (e.g., alternative approaches to data summary, such as calculation of mean chemical concentrations, Monte Carlo analysis, as appropriate). Some of the important sources of uncertainty associated with the Potomac Yard risk assessment were identified previously and include the following:

- probability of site use by wildlife species;

- the completeness of the characterization of nature and extent of contamination (e.g., adequacy of sampling with respect to characterizing temporal and spatial issues related to chemical distribution);
- the adequacy of detection limits for supporting evaluations of ecological risk;
- magnitude of chemical loading to and distribution in Four Mile Run and the Potomac River from surface and ground water discharge from Potomac Yard;
- baseline and background chemical conditions in Four Mile Run and the Potomac River;
- basis and applicability of the screening toxicity criteria used in the assessment, and possible dose-response alternatives; and
- the actual probability of population-level exposures and impacts.

(5) DETECTION LIMITS

Chemicals that were not detected in a given medium, but for which the detection limits exceed ecotoxicological screening criteria, will be evaluated separately in the assessment. In these instances, in accordance with EPA Region III requests, the detection limit will be used as the exposure concentration.

(6) TABLE OF CONTENTS

The table of contents for the ecological risk assessment will be similar to the following:

ATTACHMENT A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

Ms. Judi L. Durda
Weinberg Consulting Group Inc.
1220 Nineteenth St., N.W.
Washington, D.C.

Dear Judi:

In cases where the risk assessment deviates from our guidelines, it is probably wise to be as clear as possible regarding our concerns. While we do not object to your approach, some points should be made to indicate our position. Please do not view these as an exhaustive representation, but rather as a general perspective.

- It should be made very clear that contamination levels at any point do not represent contamination either upgrade or downgrade. In addition, levels at a site boundary cannot be expected to characterize full temporal aspects of the site.

- Contamination at any one location cannot be assumed to represent either primary or secondary sources either upgrade or downgrade.

- It should be clear that any remedial plans resulting from the risk assessment may require additional sampling to fully characterize 'hot spots'.

- As you know, revievers have questioned the adequacy and sufficiency of the data. While these questions may never be fully satisfied, basing removal action decisions on the data in hand should err on the conservative side.

- Extrapolating from the sampling points to the site as a whole is probably not going to be possible with your approach. That is why we prefer the 95% UCL and a 'go/no go' decision will likely be difficult. If possible, we would like to see a screening calculation using the 95% UCL as an appendix to the risk assessment portion of the document.

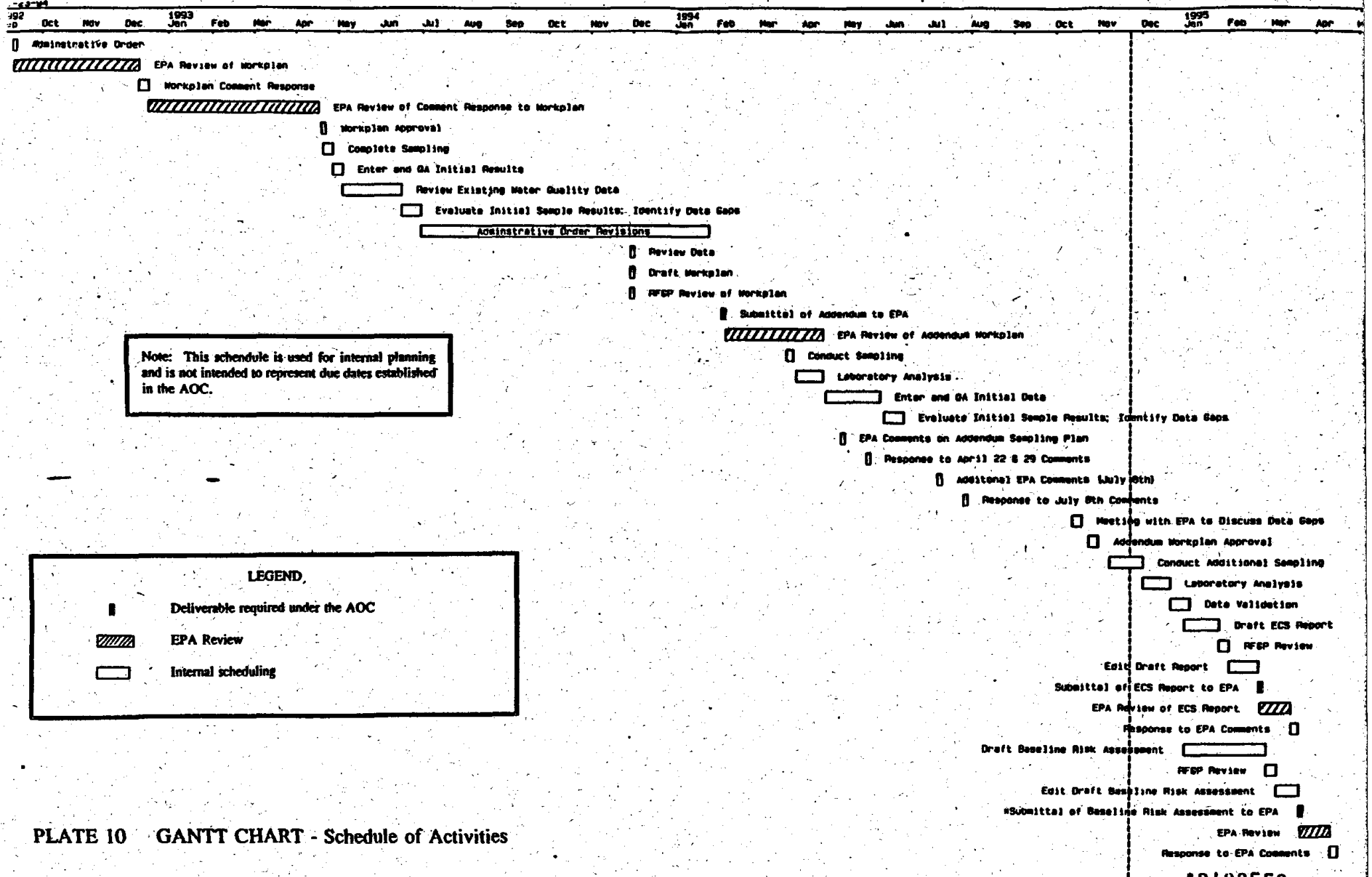
We have no quarrel with your intended use of the sample-specific-point approach, but merely want you to understand our position and views. As you may guess, we will review the results very conservatively.

Sincerely,

Robert S. Davis, Biologist

ATTACHMENT 6

REVISED ECS SCHEDULE

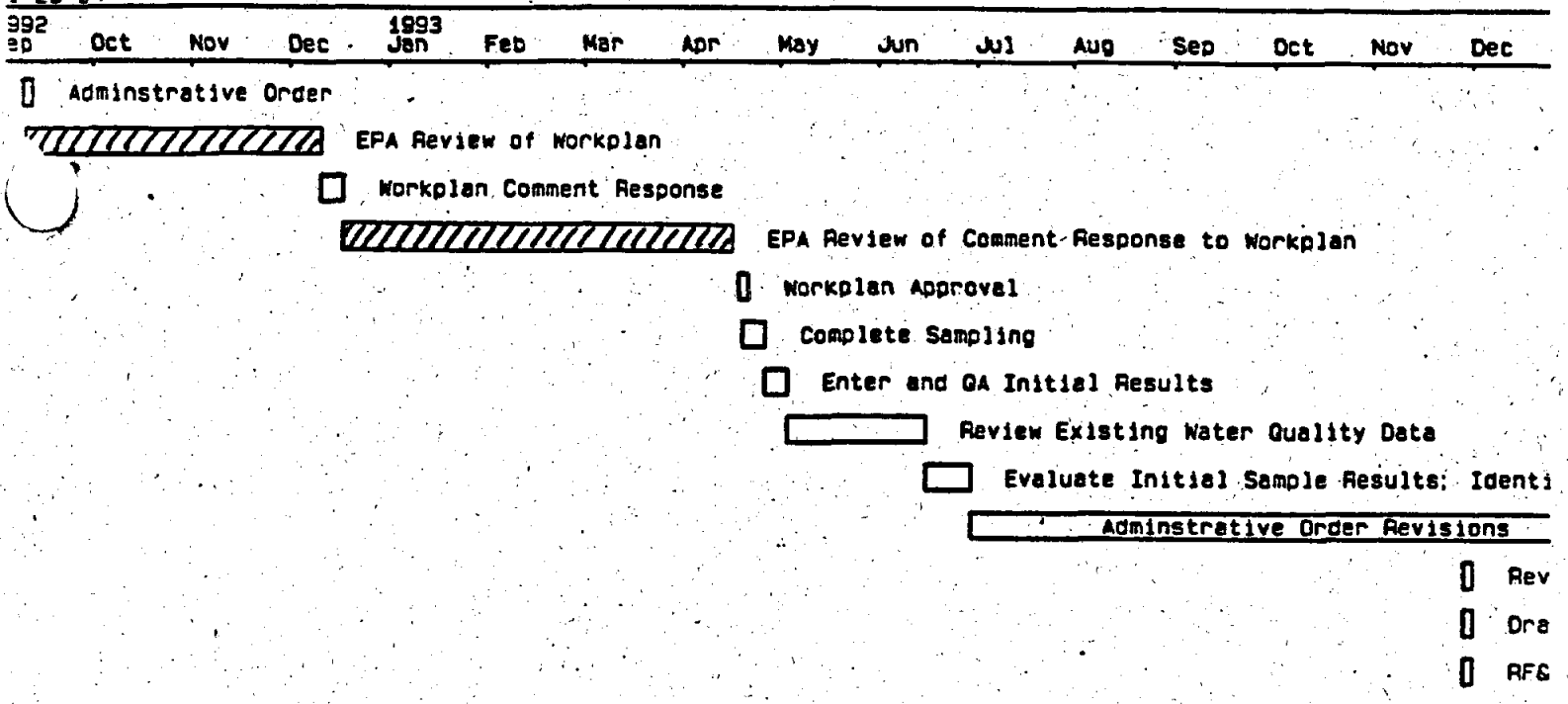


Note: This schendule is used for internal planning and is not intended to represent due dates established in the AOC.

LEGEND

- Deliverable required under the AOC
- EPA Review
- Internal scheduling

PLATE 10 GANTT CHART - Schedule of Activities



Note: This schendule is used for internal planning and is not intended to represent due dates established in the AOC.

LEGEND

- Deliverable required under the AOC
- EPA Review
- Internal scheduling

PLATE 10 GANTT CHART - Schedule of Activities

Environmental Technology
of North America, Inc.
A HazWaste Company

November 30, 1994

Mr. Jeffrey A. Dodd
U.S. Environmental Protection Agency, Region III
Removal Enforcement Section
303 Methodist Building
11th & Chapline Streets
Wheeling, West Virginia 26003

RE: Attachment to November 23, 1994, letter modifying Potomac Yard ECS Work Plan Addendum
Arlington County General Land Use Plan
ETI Job No. 1116-004-04

Dear Mr. Dodd:

Enclosed is the Arlington County General Land Use Plan. This map was referenced in Attachment 3 of the letter from Environmental Technology of North America, Inc. (ETI) dated November 23, 1994. The Land Use Plan should be included with the future-use information for Arlington County (Attachment E of Attachment 3).

If you have any questions about this document, please contact Mr. Scott Slagley of Richmond, Fredericksburg, & Potomac Railroad Company (RF&P) at (804) 225-1608.

Sincerely,

Kathy Thomas

Kathy Thomas
Environmental Specialist

ed:vs

Enclosure

cc: D. Kargbo
G. Wingert
R. Smith
T. Modena
C. Sales
W. Skrabak
J. Harns
S. Slagley
C. Martin
J.C. Curry
H. Light
K. Brinker

I:\WP\RF&P\POTOMAC\LANDUSE.LTR

2229 TOMLYNN STREET • RICHMOND, VIRGINIA 23230
TELEPHONE 804-358-5400 • 800-533-4043 • EMERGENCY 800-228-SPIL
FAX 804-358-6868
ATLANTA • BOWLING GREEN • GREENSBORO • ORLANDO • RICHMOND • ROANOKE • WOODBRIDGE

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102553

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map - Plate 1

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 10 2554

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map - Potomac Greens Wetlands Delineation

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102555

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map - South yard tail area Soil + Groundwater Sampling locations

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102556

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map- North Yard fail Area Sampling locations

NUMBER AND TYPE OF IMAGERY ITEM(S) 1

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102557

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR.

OPERABLE UNIT 00

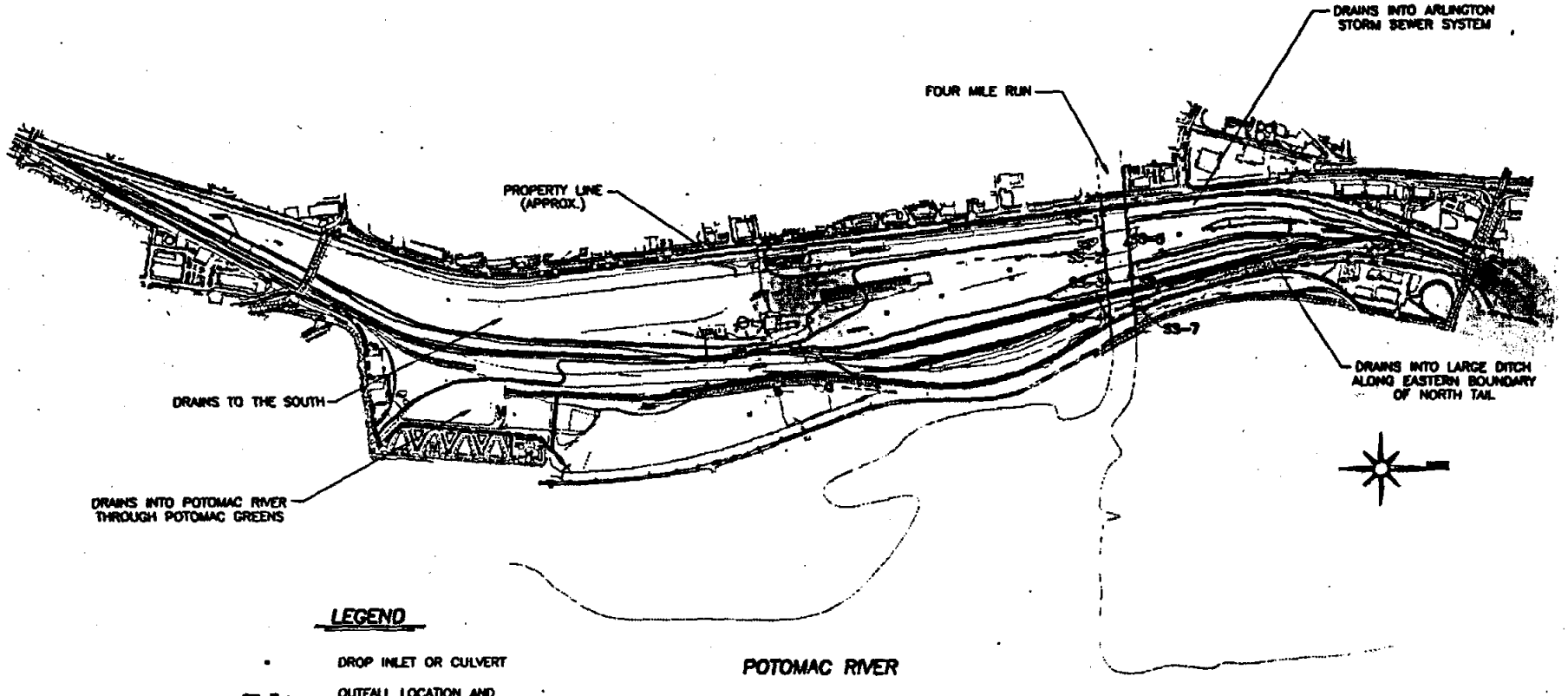
ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map- Potomac Greens Sampling location (Plate 5)

NUMBER AND TYPE OF IMAGERY ITEM(S) 1



LEGEND

- DROP INLET OR CULVERT
- SS-7 ▲ OUTFALL LOCATION AND DESIGNATION
- DRAINAGE AREA BOUNDARY

GRAPHIC SCALE

1000 0 1000 2000

1" = 1000'

PLATE 9

Environmental Technology of North America, Inc. Richmond, Va.	POTOMAC YARDS ALEXANDRIA VIRGINIA
C. FLETO	JOB NUMBER 1116-004-04
	SCALE: AS SHOWN DATE: 5/15/94 BY: SAW
	STORMWATER DRAINAGE AREAS

DRAWING REFERENCE FILE: 1116-2.DWG

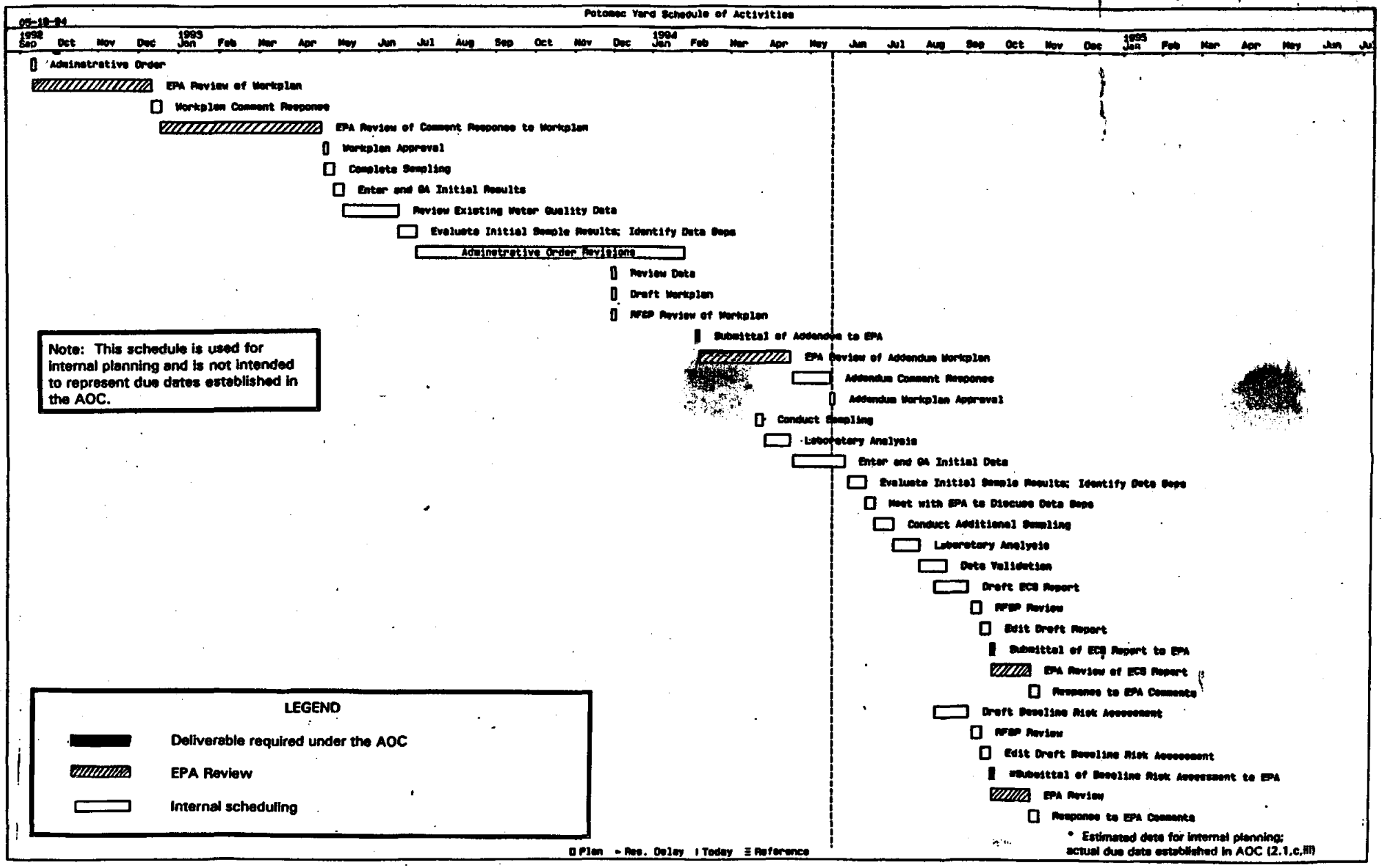


PLATE 10 GANTT CHART - Schedule of Activities

EPA REGION III
SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOC ID 157207
PAGE # 102563

IMAGERY COVER SHEET
UNSCANNABLE ITEM

SITE NAME Richmond, Fredericksburg & Potomac RR.

OPERABLE UNIT 00

ADMINISTRATIVE RECORDS- SECTION ENF REMOVAL VOLUME III

REPORT OR DOCUMENT TITLE Potomac yard/ Potomac Greens Master Plan

DATE OF DOCUMENT 11/23/94

DESCRIPTON OF IMAGERY Map-Plate 11 - Potoma Yard Physical Features

NUMBER AND TYPE OF IMAGERY ITEM(S) 1